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ABSTRACT

A study was done of the possible uses of Total Quality Management (TQM) for enhancing the quality and use of college outcomes assessment in postsecondary institutions in Tennessee. The study involved six meetings of a consortium of assessment coordinators in Tennessee over 3 years, and graduate and employer questionnaire development. Researchers eventually found that the best methodology used a mailed alumni questionnaire that included a form granting permission for employer contact and a mailed survey form for employers that contained a forced-choice response format. Other participants developed a document that translated the TQM concepts from the language of industry to that of academe. All participating institutions initiated TQM projects of one kind or another. In addition, plans were made to form a state-wide organization to continue the work. Extensive appendixes include: a critique of a method for surveying employers; an overview of quality improvement in higher education (by David Sylwester and John Harris); a summary of TQM pilot projects on campuses; materials developed by Samford University; a summary of changes at Tennessee institutions; correspondence from project participants; a reprinted article by Peter Ewell on defining quality driven institutions; and budget information. (JB)

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# Applying Deming's Quality Improvement Strategies to Assessment in Higher Education

## - FINAL REPORT -

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HE 026 063

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November 1992

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## SUMMARIES

Outcomes assessment coordinators from six public 2- and 4-year institutions in Tennessee and a private university in Alabama formed a consortium to improve their methods of gathering data from alumni and employers, to increase their use of outcomes information in making institutional improvements, and to study the implications of total quality management (TQM) for further enhancing the quality and use of assessment information in a process of continuous improvement within postsecondary institutions. Over the three years, improved methods for surveying alumni and employers were developed, campus use of assessment data increased, and TQM initiatives were undertaken at all participating institutions.

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### Titles of Project Reports

Critique of a Method for Surveying Employers: A Look at the Tennessee Experience by Raymond H. Phillippi and Trudy W. Banta. Knoxville: Center for Assessment Research and Development, University of Tennessee, 1992.

LEARN. Student Quality Team Manual by Kathryn H. Baugher. Birmingham: Samford University, 1992.

Qualiology: Quality Improvement Sourcebook by Billy J. Strickland. Birmingham: Samford University, 1992.

Quality Improvement in Higher Education: An Overview by David L. Sylwester and John W. Harris. Knoxville: Center for Assessment Research and Development, University of Tennessee, 1992.

Quality Quest in the Academic Process by John W. Harris and J. Mark Baggett. Birmingham: Samford University, 1992.

## Executive Summary

**Project Title:** Applying Deming's Quality Improvement Strategies to Assessment in Higher Education

**Grantee Organization:** University of Tennessee
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## Project Overview

In 1989, when this project began, faculty and administrators considering outcomes assessment were concerned about the quality of methods available for gathering evidence of student learning and about the difficulty of using such evidence to improve the environment for learning. Most were looking within their own institutions and the higher education community for appropriate methods for collecting data and utilizing information.

This project sought FIPSE support to bring together the outcomes assessment coordinators from seven diverse Tennessee institutions to improve their methods for gathering data from alumni and employers, to increase their use of assessment information in making institutional improvements, and to study the implications of total quality management (TQM) utilized in business and industry for further enhancing the quality and use of assessment information in a process of continuous improvement within postsecondary institutions.

## Purpose

Since skepticism abounds among faculty concerning both the reasons for doing outcomes assessment and its ultimate usefulness on campus, ways are needed to link assessment with on-going processes that are valued in the academy. The principal reason for undertaking this project was to explore the possibility that outcomes assessment could be accorded more status in the framework of institutional decision-making if it were associated with TQM, a philosophy of corporate management t' transformed Japanese industry following World War II and has been adopted since 1980 by a rapidly growing number of companies in the United States.

While participating in the study of TQM, assessment coordinators at two 2-year institutions and four universities in Tennessee collaborated to improve the quality and relevance of an alumni survey that all were required to use for the state's Performance Funding program. The coordinators also developed a common employer survey containing some of the same questions as those asked of alumni, and sent the new survey to employers of alumni who gave permission for the employer contact as part of their response to the alumni survey.

## Background and Origins

Tennessee's ten-year-old requirement that all institutions engage in prescribed outcomes assessment activities and report results as part of the state funding process provided an unusually fertile context for this project. Moreover, the well-established leadership in outcomes assessment at the University of Tennessee, Knoxville (UTK) provided additional resources in terms of research expertise and outlets for dissemination of project findings.

John Harris, who moved from a Tennessee institution to Samford University in Birmingham, Alabama at the beginning of the project, was encouraged by the president and other leaders at Samford to launch a comprehensive TQM program on that campus. The laboratory for experimentation that was created at Samford provided a rich learning environment for the other project participants from the State Technical Institute at Memphis, Roane State Community College, Austin Peay State University, the University of Tennessee at Martin, Memphis State University, and UTK.

## Project Description and Results

FIPSE support made possible six meetings of the first-ever consortium of assessment coordinators in Tennessee. Over three years, two alumni questionnaires, two questionnaires for employers, and three methods of administering these linked surveys were tested. The most effective and efficient methodology used a mailed alumni questionnaire that included a form granting permission for employer contact and a mailed survey form for employers that contained a forced-choice response format.

John Harris and David Sylwester, head of the Department of Statistics at UTK and TQM consultant, jointly explored the application of TQM within higher education and developed a document that translates TQM concepts from the language of industry to that of academe. All participating institutions had initiated TQM projects of one kind or another before the grant expired.

## Summary and Conclusions

Distances and politics in Tennessee had kept assessment coordinators from getting together to pool ideas and strategies prior to 1989. By the time this project ended in 1992, relationships were so firmly established and the benefits of collaboration so clearly demonstrated that at the last consortium meeting, plans were made to form a state-wide organization to continue the FIPSE-stimulated tradition.

Whereas on some campuses across the country 1992 brought fears that TQM would rob outcomes assessment of attention and resources, at the institutions involved in this project, assessment coordinators were providing leadership for both initiatives. Careful scholarly work on two data-gathering strategies had enhanced the credibility of at least some of the assessment methods in use, and many more programs designed to improve the learning environment for students were being based on assessment findings than was the case when the project began in 1989. The project demonstrated that given the right context, TQM can increase the use of assessment findings in a process of continuous improvement in colleges and universities.

# Applying Deming's Quality Improvement Strategies to Assessment in Higher Education

## FINAL REPORT

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# APPLYING DEMING'S QUALITY IMPROVEMENT STRATEGIES TO ASSESSMENT IN HIGHER EDUCATION

***--FINAL REPORT--***

## Project Overview

In 1988, when the project "Applying Deming's Quality Improvement Strategies to Assessment in Higher Education" was proposed, very few people in higher education were considering the possibility of applying Total Quality Management (TQM) principles in higher education. Faculty and administrators involved in outcomes assessment were concerned, however, about the quality of methods available for gathering evidence of student learning and the difficulty of using such evidence to improve the learning environment. But most were looking within their own institutions and the higher education community for appropriate methods of collecting data and utilizing information.

This project was designed to bring together the outcomes assessment coordinators from seven diverse institutions in Tennessee for the purposes of (1) improving their methods of gathering data from two important constituencies: alumni and employers, (2) increasing their use of outcomes information in making institutional improvements , and (3) studying the implications of W. Edwards Deming's approach to TQM for further enhancing the quality and use of assessment information in a process of continuous improvement within postsecondary institutions.

FIPSE support for this proposal made possible some of the most sustained and broadly-based work ever undertaken on linked (i.e., employer survey paired with that of a given graduate) alumni and employer surveys. Over the three years of the project, representatives of the two 2-year and five 4-year institutions involved collaborated to produce sets of questions for graduates and their employers that they considered equally relevant for community college and university settings. The three-year life of the project made it possible to test two versions of the alumni survey, two ways of asking questions of employers, and three methods of administering the paired alumni and employer instruments. The study thus produced some unusually well-founded recommendations for types of

items to use in such surveys and for ways to administer the survey instruments (See Appendix A). Indeed the item analysis studies on the alumni survey that were conducted as a part of this project were considered so important by the Tennessee Higher Education Commission that modifications in the scoring of the state-wide alumni survey responses in Tennessee's performance funding program were undertaken in response to these studies.

By the end of the project in August 1992, national interest in the application of TQM in higher education had mushroomed. Four of the seven institutions in the FIPSE project consortium had undertaken significant TQM initiatives, a translation of the Deming principles (Deming, 1982) from the language of business and industry to that of the academy had been produced, and consortium institutions were in a position to offer some guidance to colleagues in other colleges and universities interested in initiating their own TQM programs.

Finally, there was notable progress over the three years of the project in the extent to which assessment data were brought to bear on decision-making at the seven institutions in the consortium. This progress was due in part to the increased credibility for the data that was imparted by the improvements made during the course of the project in the methods for soliciting opinions from alumni and employers. Progress also stemmed from campus involvement in TQM initiatives, since data-gathering plays such a central role in the TQM philosophy. A third source of progress was the mutual support that project affiliation afforded the assessment coordinators on the seven participating campuses.

## Purpose

In response to external pressures from state and federal agencies and regional and disciplinary accrediting bodies, virtually all colleges and universities are planning and/or implementing strategies to assess student outcomes. Unfortunately, skepticism on the part of faculty about the principal reason for doing assessment, that is, merely responding to external requests for

evidence of accountability, and about the reliability and validity of the instruments being used has resulted in the collection of much unused data on many campuses. Ways are needed to link outcomes assessment with on-going processes that are valued by faculty and administrators. The fundamental reason for undertaking this FIPSE project was to explore the possibility that outcomes assessment could be accorded more status in the framework of institutional decision-making if it were associated with Total Quality Management, a philosophy of management that virtually transformed Japanese industry following World War II and that has been adopted since 1980 by a rapidly growing number of companies in the United States.

While participating in the study of TQM as envisioned by W. Edwards Deming (TQM is associated with Deming's work even though Deming himself does not use this term), assessment coordinators in the six public institutions brought together under FIPSE auspices collaborated in a joint project to improve the quality and relevance of items in an alumni survey that all were required to use as part of their compliance with the Tennessee Higher Education Commission's Performance Funding policy. Going further, the assessment coordinators developed a new survey for employers that contained some of the same items as did the alumni survey instrument and sent the new questionnaire to employers of alumni who gave permission for the employer contact as part of their response to the alumni survey (Appendix A includes all survey instruments). The collaboration made possible by FIPSE funding was also focused on the overall goal of increasing the use of outcomes assessment data in making campus improvements by virtue of enhancing the credibility of the data-gathering instruments and methods used and building assessment into a program of continuous improvement founded on the principles of Total Quality Management.

**Background and Origins**

Tennessee has provided an unusually rich context for this project. Since 1979 all public colleges and universities, both 2-year and 4-year institutions, have been required to provide evidence

of program quality in annual Performance Funding reports in order to be eligible for budget supplements of up to 5.45 percent of the state allocation for the instructional component of their education and general budgets. Performance Funding policy specifies that institutions shall test all graduates with a standardized general education exam, test graduating students with a comprehensive test in their major field, administer a common alumni survey, pursue accreditation of all accreditable programs, and use the results of assessment to improve programs. Scoring criteria are applied in each of these areas to determine the size of the annual budget supplement for a given institution. With nearly ten years' experience in collecting outcome information and attempting to put it to use, the six public institutions in the FIPSE project consortium had more experience in this arena than comparable institutions in any other state.

The fact that the outcomes assessment program at the lead institution for this project-- The University of Tennessee, Knoxville (UTK)-- was widely recognized for its own achievements as well as its service to the national assessment community is yet another important component of the context for this FIPSE project. UTK's Center for Assessment Research and Development provided the staff resources to design, administer, and evaluate the alumni and employer instruments; to coordinate the project on seven diverse campuses; and to disseminate project findings in papers presented at meetings of disciplinary associations, in articles published in scholarly journals, in the UTK-edited national periodical Assessment Update, and at annual UTK-sponsored national and international conferences.

Three unanticipated developments influenced the conduct of this project. Two ultimately had a positive impact, the third proved to be a limiting factor.

John Harris, a professor at David Lipscomb College in Nashville in 1988, had steeped himself in the Deming literature and appeared to have a unique opportunity to spend a year partially supported by Kellogg Foundation funds studying the application of TQM principles in Hospital

Corporation of America headquarters in Nashville and trying out these principles on the Lipscomb campus. At about the time the Kellogg Foundation decided not to provide the sabbatical funds, Harris made the decision to resign at Lipscomb and become assistant provost for quality improvement at Samford University in Birmingham. What had been planned as a year of observation and contemplation became instead a time of total immersion at Samford in a pioneering effort to apply TQM to every function within a four-year postsecondary institution. Even though the year of study might have provided a more solidly-grounded beginning for TQM at the consortium institutions, the firm commitment to TQM at Samford permitted experimentation in a wider variety of institutional operations than would have been the case had Harris remained at Lipscomb.

The original FIPSE proposal indicated that John Harris would spend about one-fourth of his time applying TQM principles at Lipscomb and at the University of Tennessee, Knoxville (UTK). Instead, he became a full-time shepherd for TQM at Samford. Fortunately for Samford and for UTK, a splendidly well-prepared TQM consultant who could help both institutions was discovered in the College of Business faculty at UTK. David Sylwester, head of the UTK Department of Statistics, and frequent lecturer for the UTK Management Development Center's internationally-known TQM seminars for corporate executives, was so interested in seeing TQM applied in the operations of his own university that he volunteered to become the principal quality management consultant for the FIPSE project.

Over the years during which this project was conducted, significant change occurred in the leadership of the host institution, The University of Tennessee, Knoxville. Lamar Alexander, president of the UT System which is based in Knoxville, resigned to accept the position of US Secretary of Education. His appointee as chancellor of the Knoxville campus subsequently resigned, as did the chief academic officer at Knoxville. During the period of transition between the resignations of these key administrators and the naming of their successors, few significant new

initiatives were undertaken, either at the system or at the campus level. This situation made it much harder than it would have been otherwise for those who wanted to pursue TQM initiatives at UTK to receive administrative support for their efforts. Thus what might have become a campus-wide initiative was undertaken by only a few courageous deans, directors, and department heads.

In summary, this project was influenced both positively and negatively by several contextual elements that could not have been foreseen when it was proposed. Ultimately, the project was successful in accomplishing its objectives because Tennessee's historic Performance Funding program, Samford University's unique commitment to applying TQM principles, and UTK's preeminent Management Development Center and Center for Assessment Research and Development provided an unusually rich array of resources to support it.

## Project Description

The primary goals of this project were to:

1. Build the first formal organization of assessment coordinators ever developed in Tennessee for the purpose of providing a framework for sharing data and ideas for improving the quality of assessment methods and instruments.

2. Modify an existing alumni survey instrument to include more questions about career preparation and job satisfaction and create a new survey for employers that would contain some of the same items.

3. Study the literature of Total Quality Management, translate its elemental principles from the language of business and industry to that of the academy, and begin to apply TQM on at least three of the campuses comprising the consortium.

4. Increase among member institutions (a) the number of institutional planning goals relying upon outcomes assessment data as evidence of their achievement and (b) the number of improvements in the environment for student development undertaken annually.

### Consortium-Building

While effective state-wide organizations for assessment coordinators and interested faculty had been formed in Virginia, South Carolina and elsewhere, no such group had ever been convened in Tennessee prior to 1989, when this project began. With the state's two largest institutions, UTK

and Memphis State University, separated by approximately 500 miles, and several other institutions even more widely dispersed, distance alone was a significant factor in limiting inter-institutional collaboration. FIPSE funds made it possible for assessment coordinators at member institutions to traverse the distances involved twice a year for three years.

**Survey Development**

Beginning in 1987, Performance Funding policy required each public institution in Tennessee to administer every other year a common alumni survey to individuals who had graduated two years earlier. That is, in 1990, for example, all 1988 graduates at 2- and 4-year institutions were surveyed with the same instrument. The items on the state-approved questionnaire asked graduates about their current impressions of the quality of various aspects of their college experience. However, the questionnaire contained only a few questions about career preparation and satisfaction with current employment. In view of the importance students and graduates alike attach to the value of a college education in preparing them for employment, the assessment coordinators associated with this FIPSE project wanted to develop paired questionnaires for graduates and employers that would probe more thoroughly prevailing opinion about this aspect of the college experience.

**TQM Adaptation**

Edwards Deming began his work on continuous improvement of quality in Japanese industry, and in 1989 virtually all the literature on this topic was written for those engaged in the production of goods and services. Thus it was clear that a translation of quality improvement concepts for application in higher education was urgently needed. Many faculty recoil at the idea of student as "customer", and even maintain that their academic freedom will be jeopardized if they should be forced to consider the preferences of students, graduates, or employers in designing academic programs, courses, and methods of instruction. Moreover, faculty tend to do most of their work alone rather than in collaboration with colleagues; thus the prospect of working with others in cross-

functional teams to analyze, evaluate, and improve the processes of higher education is not always welcomed. A proposed outcome of this project was the development of a written document that would explain TQM principles in the language of the academy, give faculty and administrators examples of TQM applications in colleges and universities, and present the advantages of using TQM as opposed to doing business as usual.

**Assessment Enhancement**

Although in 1988 all public institutions in Tennessee had been complying for nearly a decade with the requirements of the state's Performance Funding policy, many institutions had done so in a perfunctory way. The annual report for the state was completed, but little additional effort was expended to make assessment an important and valued component of institutional decision-making. Through the study and application of TQM principles, the individuals involved in this project hoped to increase the perceived importance and usefulness of outcomes assessment on their campuses.

## Project Results

**Consortium-Building**

From the outset, the assessment coordinators in the consortium--those representing the State Technical Institute at Memphis; Roane State Community College; the University of Tennessee, Martin; Austin Peay State University; Memphis State University; the University of Tennessee, Knoxville; and Samford University--welcomed enthusiastically the opportunity to share ideas about assessment, improve survey instruments, and study TQM. Consortium meetings--one at Memphis, in the western tip of the state, three in centrally-located Nashville, and two at Knoxville in the east--were considered professional development activities because the agenda always included presentations about instrument development and data analysis as well as a TQM seminar led by John Harris or David Sylwester. As Harris and Sylwester developed drafts of their translation of Deming concepts to the language of higher education (see Appendix B), consortium members were given the

opportunity to criticize the work.

The new opportunity for assessment coordinators to meet for discussion and to share data and findings soon began to have an impact on Tennessee's Performance Funding program. First-ever comparative analyses of institutional responses on the common alumni questionnaire revealed some problems. Differential item functioning analyses identified several items that were biased in favor of certain institutions and against others. When this information was presented to the staff of the Tennessee Higher Education Commission (THEC), the items showing systematic bias were eliminated from scoring for funding purposes.

Comparative analyses of scores obtained by graduates on the ACT COMP exam in general education produced the finding that the average correlation between COMP scores of Tennessee graduates and their entering ACT Assessment scores was .91. This and other analyses conducted at UTK finally persuaded THEC officials to abandon the decade-old requirement that the COMP exam be used as the sole criterion for judging the quality of general education programs for Performance Funding purposes.

Participants in the FIPSE consortium began to be recognized as the leading scholars of assessment in Tennessee, and ultimately were called upon by the THEC staff to play a prominent role in shaping the state's third five-year plan for Performance Funding that took effect in July 1992.

**Survey Development**

In 1987, the Tennessee Higher Education Commission issued its second five-year plan for Performance Funding, and specified that every public institution administer on a biennial basis an alumni survey that had been developed in 1984 for periodic use at UTK by William Lyons, UTK professor of political science. The THEC guidelines specified in detail the methodology to be used in administering the survey, and no modifications in that methodology were permitted.

When members of the FIPSE consortium decided to ask Professor Lyons to develop an

employer survey for administration to graduates willing to identify their employer and grant permission for the employer to receive a survey instrument, they elected to conserve resources by relying upon respondents to the alumni survey required for Performance Funding to gain access to employers. This process required a follow-up mailing to alumni respondents, however, because the THEC standardized methodology for administration did not permit the addition to the initial mailing of a request for permission to survey the employer.

A disappointingly low response on the part of alumni to the two-stage mailing process (while 53% returned the initial questionnaire, only 21% of the total surveyed granted permission via the follow-up mailing) prompted the UTK assessment research team to try another approach during the second year of the FIPSE project. A modified questionnaire including more items related to the graduates' perceptions of the quality of their college preparation for their current job was mailed, along with the request for permission to survey the employer, to a sample of graduates at two of the five consortium member institutions that participated in the first-year survey process.

The single mailing to alumni doubled their permission rate--42% of the total alumni sample gave permission as opposed to 21% when the permission form had to be mailed separately--and the same high employer response--about 90%--was obtained for the second administration of the employer instrument. However, this second administration of the questionnaire for employers strengthened consortium members' conclusion that a serious response set problem kept the instrument from providing definitive information about the relative importance of specific job-related knowledge and skills and characteristics of employee performance. The employers were assigning such high ratings to every item listed that it was not possible to make meaningful distinctions among items.

By the third year of the project, only UTK staff were able to afford to re-administer the employer survey, and it was time once again to use the standardized state methodology for querying alumni. Instead of using a follow-up mailing to those graduates who returned the alumni

questionnaire, UTK personnel telephoned respondents to obtain permission to send the employer survey. This technique produced a permission rate of 45 percent of the total sample of alumni--approximately the same as that obtained from a single mailing. A modified employer survey form was mailed that forced employers to allocate 100 points among 10 items each in sections dealing with importance of knowledge and skills and employee performance. Since this response format took longer for employers to complete, the rate of employer return was somewhat lower. But the drop from 90 percent to 80 percent still yielded an acceptable response rate, and subsequent analyses revealed increased differentiation among employers' responses.

Three years of study yielded the conclusion that it is more cost effective to obtain permission to survey their employers in a single mailing to graduates rather than via telephoning. Moreover, better data on employers' perceptions of graduates' skills can be obtained using a forced-choice response format for groups of items than with a Likert scale for individual items.

In general, employers valued most their employees' abilities to work cooperatively, solve problems, work with minimal supervision, listen effectively, and be dependable and on-time. These were also the performance characteristics on which they gave the designated employees the highest ratings. Moreover, there was a moderate correlation between employers' ratings of important skills/abilities and graduates' ratings of the extent to which their college experience had added to these skills and abilities. Thus the survey provided some evidence that the colleges involved in the consortium are strengthening in graduates the skills their employers consider important to success on the job.

**TQM Adaptation**

During the first year of the FIPSE project, John Harris at Samford University and David Sylwester at UT Knoxville began work on a document that would explain how TQM principles might be applied in higher education and why that process might be beneficial. As this document evolved

from an outline to several drafts, it received reviews from a variety of sources.

Consortium members saw the work at each stage and provided their comments. During the second year, three national consultants were engaged to read the penultimate draft and return detailed critiques. Paul Betalden, vice president for quality improvement at Hospital Corporation of America, was asked to provide the perspective of an experienced TQM scholar and practitioner in a service-oriented organization outside academe. Kim Cameron, professor in the Graduate School of Management at the University of Michigan, read the manuscript through the lens of a TQM theoretician and provider of training in quality improvement principles for corporate personnel. Dan Seymour reviewed the work from the point of view of a scholar who has recently made the application of TQM in higher education his area of special interest.

Finally, the Sylwester-Harris manuscript was reviewed by the advisor to the president for TQM at each of six research universities convened for a dissemination conference (see Dissemination section below) in Knoxville on May 22, 1992. Following this meeting the manuscript was revised once more, and the resulting document, Quality Improvement in Higher Education: An Overview, appears in Appendix B.

Project TQM consultants Harris and Sylwester have helped guide TQM pilot projects through visits and follow-up contacts at Samford University, Austin Peay State University, and UT Knoxville. The presidents at Samford and Austin Peay have announced their intentions to support TQM initiatives and are actively engaged in providing leadership for projects in which their own staff are involved. Although neither Harris nor Sylwester has visited State Tech at Memphis, partly as a result of the on-going work of the FIPSE consortium, the president of that institution has announced his intention to embrace TQM. At UTK, a monthly seminar involving about ten administrators, including Lamar Alexander's senior vice president, has met with David Sylwester as quality coach for two years to explore ways to apply TQM principles to processes in central administrative offices.

At all remaining consortium institutions, more limited TQM initiatives are underway. Some of the projects undertaken in these varied settings are described briefly in Appendix C.

The impact of TQM on management processes at Samford University is so great that several explanatory documents produced at Samford are reproduced in a separate Appendix, D. Of particular interest are Samford's 1991 report to the Southern Association of Colleges and Schools (SACS) in which the Samford TQM approach is used to fulfill the SACS institutional effectiveness criterion, and Samford's use of the Baldrige Award Criteria. Three additional book-length documents prepared with FIPSE project support are listed on page one of the Summaries section of this report.

**Assessment Enhancement**

Appendix E contains a summary of changes made prior to 1989 at Tennessee institutions as a result of engaging in assessment activities. Even though a second five-year plan for Performance Funding had been developed and put into operation by that time, assessment still was not viewed on most campuses as an activity central to carrying out the institutional mission. In 1992, as Performance Funding proceeds into its second decade, a third five-year plan for Performance Funding is being implemented, and calls for evidence of accountability are sounded on virtually every college campus, the changes made in 1992 by Tennessee institutions engaged in assessment are more numerous, more specific, and more student-oriented. Moreover, on each of the campuses involved in the FIPSE project, assessment is more clearly and explicitly connected to on-going institutional planning and budgeting processes than it was when this project first began. These trends probably would have been evident even if the FIPSE project had not taken place, but unquestionably the assessment coordinators involved were more aware on a continuing basis of an obligation to make these things happen, and this awareness must have had some influence on the 1992 outcomes.

While it is not possible to describe specifically what students have learned as a result of this project, it is reasonable to speculate that the student environment for learning has been enhanced, that

opportunities for learning have been increased, at institutions involved in the project. The changes effected on these campuses may be characterized as ones that:

- Provide direct assistance to students, or
- Influence students indirectly through faculty and staff development activities or changes in curriculum

Direct assistance to students. Career guidance and preparation top lists of needs identified by students on campuses across the country. At one of the six Tennessee institutions involved in this project, job placement and student counseling offices have been combined to provide better career guidance. At another, a multi-media skills center has added the Myers-Briggs Type Inventory, the Strong Interest Inventory, and the Discover Program of career information to its offerings in order to be more responsive to student needs. One college has instituted a program designed to enhance students' job seeking skills through job-fair participation and instruction in resumé writing. The same college also has developed a new co-op program for its Office Administration majors.

Two institutions have installed new computer software in writing centers to help students improve their writing skills. Technological enhancements have also been installed on two campuses to make available on-line student profiles that can help advisors work more knowledgeably with their advisees, especially those most likely to be at risk. One college has developed workshops on test-taking skills for test-anxious students and on use of calculators for students needing special help in math courses.

Responses to the state-wide alumni survey have indicated that some Tennessee institutions need to offer more broadly-based social and cultural opportunities for students. Two institutions in the consortium have undertaken new programs, one with a grant from the Tennessee Arts Council, to afford students opportunities to see art exhibits and hear concerts and lectures. One has hired two new counselors to develop extracurricular activities suited to the needs of nontraditional students. In order to promote multi-cultural awareness and create a more hospitable environment for African-

American students, one college has established a Black Student Association and a gospel choir.

Concern for students' health and physical fitness, strengthened by assessment findings, has led to the sponsorship of an AIDS awareness workshop and free screening for various health problems on one campus. On another, funds were secured to purchase new equipment for a fitness center that will also serve the community.

One institution has implemented a coordinated series of initiatives to increase freshman-to-sophomore retention, including (a) procedures for diagnosing entry-level deficiencies and providing appropriate placement, (b) developing an early-warning system to identify students at risk of dropping out, and (c) enhancing the quality of instruction in core courses. Two have undertaken initiatives designed to improve the preparation of entering students: one is working more closely with area high schools to communicate knowledge and skill requirements for college entrance, and one is working with area community colleges to facilitate transfer from two-year to four-year programs of study.

In a move that will provide direct benefits to students, one institution has implemented a five-year plan for increasing the use of technology in instruction and maintaining and replacing instructional equipment. Another has used years of survey responses indicating inadequacy of the library to convince the state to fund construction of a new library and increased library acquisitions.

Faculty and staff development activities. In keeping with the high priority that students give to their needs for career guidance and preparation, faculty development experiences in the area of career guidance top the list of most-frequently-offered professional development topics. One campus in the consortium now offers faculty training in generic career advising. Another helps faculty learn to provide better counseling concerning careers in the major field.

Other faculty development topics offered in response to needs identified via outcomes assessment include business ethics, writing across the curriculum, critical thinking, curricular and extra-curricular activities designed to enhance multi-cultural awareness, and assessment instruments

for writing-intensive courses.

One institution has adopted a common syllabus outline to help faculty communicate with students more clearly concerning course content. On another campus, workshops for adjunct faculty help to increase the sense of shared purpose among all faculty by providing information about campus mission and goals, policies and procedures.

Finally, faculty at one institution have revised their guidelines for promotion, tenure, and merit pay to strengthen the emphasis given to evaluation of teaching and advising.

Changes in curriculum. Faculty at three consortium institutions have made curriculum changes in response to assessment findings that should have the long-term effect of improving student learning. As an additional component of the program review process required as part of Performance Funding, one institution has stipulated that every department will study its curriculum every three years to see if changes are needed to bring the curriculum structure and course content up to date.

Several consortium institutions that already were offering special freshman experience courses have added sections and one more has initiated such a program.

At one institution, an ESL program has been established and two new computer courses have been added to enhance students' employability. Two institutions have attempted to address the problem of lower-than-desired scores of graduates on the general education exam required for Performance Funding credit by making changes designed to improve their general education programs. One has added a new philosophy course, "Values in the Modern World". Another has revamped its general education requirements for students majoring in education, and also has inaugurated writing and speaking requirements across the curriculum. Now, in addition to introductory composition and speech courses, students must take an upper-division course in their major that is writing intensive and another course in the major that emphasizes speaking.

## Evaluation

This project can best be evaluated by considering the new structures, materials, and programs it has produced. Tangible evidence of achievement may be cited in connection with each of the project's principal goals.

### Consortium-Building

A consortium of seven institutions was established and maintained for three years via six formal meetings and other forms of communication. Each meeting was considered a professional development experience for those involved (see letters in Appendix F). At the last meeting of the group in August 1992, plans were made to build on the FIPSE project experience by establishing a formal organization for Tennessee's assessment coordinators that would meet annually at the site of the Tennessee Association for Institutional Research to which most of the coordinators belong.

Partially as a result of their discussions and mutual study of common assessment data, the Tennessee contingent of the consortium came to be recognized as the most knowledgeable practitioners in the state on the topic of Performance Funding. During the first year of the project they were able to effect a change in scoring methodology in the guidelines for the second five-year Performance Funding program. Several consortium members also played prominent roles in subsequent years in developing the third five-year plan for Performance Funding in Tennessee.

### Survey Development

This FIPSE project produced a new alumni survey instrument with items related to career preparation and experience and two forms of an employer survey instrument that contain some of the same items as are found in the questionnaire for graduates. An administration technique was developed to gather data first from a graduate, then from his or her employer, so that the responses of employee and employer could be compared. Over three years of the project, three ways of administering the alumni-employer survey were tried and evidence was obtained for the

recommendation that both groups be approached via mailed questionnaires. Two papers on the survey methodology were prepared; both were accepted for presentation at annual meetings of the Association for Institutional Research (AIR). The first paper will be published in early 1993 by AIR, and the second is being considered for publication.

**TQM Adaptations**

John Harris and David Sylwester produced a document entitled Quality Improvement in Higher Education: An Overview (see Appendix B) that serves as a translation of quality improvement concepts for academics. This document was evaluated by consortium members, three TQM scholars, and six TQM coordinators at major research universities.

This project is at least partially responsible for the inauguration of major TQM initiatives by presidents on three consortium campuses as well as smaller TQM applications at all other involved institutions. Some of the TQM projects undertaken are described in Appendix C.

**Assessment Enhancement**

As noted in the previous section, Project Results, consortium institutions have since this project began used their assessment data to initiate many more programs designed to improve the learning environment for students than had been the case prior to 1989 when the FIPSE project was funded. While it cannot be demonstrated that student learning has improved, there is every reason to believe that this will occur as a result of the many actions undertaken to enrich curricula and improve instruction and student services.

## Dissemination and Continuation

Project staff have made presentations based on the learnings resulting from this project at the following meetings:

- Two annual meetings of the Association for Institutional Research.
- Two annual meetings of the AAHE national assessment conference.

- Two national assessment conferences sponsored by the principal investigator, one in 1991 in Knoxville, the other in 1992 in Indianapolis.
- Two international assessment conferences sponsored by the principal investigator, one at St. Andrews, Scotland, the other at Enschede, The Netherlands.

In addition, a dissemination conference for the project was held in Knoxville on May 22, 1992. Representatives of ten institutions engaged in early TQM initiatives attended and a summary of the proceedings was published in Assessment Update (see Appendix G).

One of two formal papers developed on the alumni-employer survey methodology will be published by AIR in 1993; the other is being considered for publication. Articles based on project findings have also been published in Assessment Update, a national periodical marketed by Jossey-Bass, and in Context, the faculty-staff publication at UTK. The Sylwester-Harris paper on TQM in higher education has been placed on the list of publications that can be ordered from the Center for Assessment Research and Development at UTK. This list is circulated both nationally and internationally.

Plans have been made to continue and expand the Tennessee component of the consortium by adding a meeting for assessment coordinators to the program of the Tennessee Association for Institutional Research.

Consortium members are enthusiastic about continuing and expanding the TQM initiatives begun on their campuses. They are pleased to be in the vanguard of a burgeoning national movement to incorporate TQM in the management of colleges and universities.

Finally, by virtue of the relocation of the principal investigator, many of the learnings associated with this FIPSE project will now be applied directly on an eighth campus, that of Indiana University-Purdue University Indianapolis. Trudy Banta is now Vice Chancellor for Planning and Institutional Improvement at that institution, and involvement in the FIPSE project helped shape the thinking that went into the design of this new position. Three years ago, the job at Indianapolis

would probably have been conceptualized as that of a director of assessment. However, study of TQM has convinced many that assessment should be linked with an emphasis on continuous improvement. The title of the office therefore reflects the context in which outcomes assessment can be most effective--based upon specific plans and aimed at long-term improvement.

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# APPENDIX A

## CRITIQUE OF A METHOD FOR SURVEYING EMPLOYERS: A LOOK AT THE TENNESSEE EXPERIENCE

# CRITIQUE OF A METHOD FOR SURVEYING EMPLOYERS: A LOOK AT THE TENNESSEE EXPERIENCE

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Running head: Employer survey critique

# CRITIQUE OF A METHOD FOR SURVEYING EMPLOYERS: A LOOK AT THE TENNESSEE EXPERIENCE

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## ABSTRACT

Three techniques for surveying alumni and employers were conducted over the space of three academic years for the purpose of comparing these methodologies. In the first study, alumni were asked to complete a mailed questionnaire, then were encouraged through a follow-up mailing to grant permission for their employers to be contacted. In the second year, the alumni were asked for their permission for employer contact on the initial survey instrument, and in the third year, alumni were contacted by phone for this permission after they had returned their own questionnaires. Employers were surveyed through the mails in every case, but their instrument was revised in the third year to replace a Likert scale for item responses with a forced-choice format. Comparison of response rates indicates that gaining permission for employer contact directly on a questionnaire mailed to alumni is just as effective as phone contacts, and is more effective than the two successive mailings to graduates. The results also suggest that employers answer Likert items with a response set unless forced to do otherwise by the method of questioning. This study indicates that a mailed survey methodology for alumni and their employers can be effective if the graduate's permission is obtained on the initial questionnaire and if employers are forced by the survey instrument's format to differentiate among listed job characteristics and performance ratings.

# CRITIQUE OF A METHOD FOR SURVEYING EMPLOYERS: A LOOK AT THE TENNESSEE EXPERIENCE

As colleges make more self-conscious efforts to improve their effectiveness, interest is increasing in surveying employers to gather their opinions and suggestions concerning the preparation of graduates. During the 1989-90 academic year, with grant support from the Fund for the Improvement of Postsecondary Education (FIPSE), faculty at the University of Tennessee, Knoxville formed a consortium of seven two-year and four-year colleges and universities for the purpose of developing a mail survey for employers of graduates. This survey methodology was pilot-tested that year, and several shortcomings were noted. The employer questionnaire and a companion instrument for alumni were modified, and two more pilot studies were performed during the 1990-91 and 1991-92 academic years. While the initial trial of the survey took place on five campuses, funding constraints limited the second pilot to two of the institutions and the third to only one, The University of Tennessee, Knoxville.

The purpose of this paper is to describe the experience of the one institution that was able to pilot test this methodology in all three years. It provides a critique both of the revised questionnaires and of the modifications made in administration procedures. The result is a cost-effective survey methodology that can be used by two- and four-year institutions to assess employer satisfaction with graduates.

## LITERATURE REVIEW

This review of related literature investigates the use of employer surveys in both two-year and four-year institutions. Studies are examined for their perspectives on survey methodology and attendant response rates. The review of survey methods is guided by several questions. Will employers be asked questions about individual graduates or about

graduates in general? What method of questioning will be used -- mail survey, telephone interview, or face-to-face interview? What kind of follow-up will be conducted?

Experience of two-year institutions

In keeping with the emphasis in their missions on job preparation, two-year institutions have accumulated more experience in surveying employers than have four-year institutions. In fact, two-year colleges and institutes have experimented with virtually every employer survey technique available.

At least two institutions report having used what might be called a "broadside" approach to surveying -- sending questionnaires to employers only, without identifying any particular graduates. A survey of community college employers in New York yielded a 47 percent response rate when placement records were used to obtain the names of the employers (Francis & Jones, 1976). St. Louis Community College at Forest Park identified employers from responses to an alumni survey (Kapraun & Nienkamp, 1985), a technique that yielded an employer response rate of 39 percent.

In an attempt to obtain more specific information about program quality, many two-year colleges have linked their surveys of employers to named graduates. This approach necessitates obtaining the graduate's permission to question the employer, and the additional step lowers generalizability because those who grant permission may differ in important ways from those who do not. Institutions have used various techniques to resolve these problems.

Some colleges have obtained permission as part of a mailed alumni survey (Gell & Jones, 1975; Montemayor, Hardin, & Reed, 1986; Head, 1990; Gell, Jones, & Lowe, 1976). This technique has yielded permission rates varying from 34 to 40 percent. (One institution did obtain a permission rate of 71 percent using the technique, but this was much higher than its usual rate (Gell, Jones, & Lowe, 1976), and the authors were unable to provide an explanation for the difference.)

In another approach, Lorain County Community College mailed postcards to alumni explaining the purpose of the survey and asking for permission to survey the graduate's employer (Isbell & Jonas, 1976). This method yielded a 46 percent rate of return. Finally, one institution surveyed its alumni first, then sent a letter requesting the graduate's permission to collect information from his/her employer (University of Hawaii, 1977). This technique yielded a permission rate of 29 percent -- lowest of the methods in current use.

A seemingly more productive approach involves the use of telephone interviews with former students. Using this method, Johnson County Community College obtained an 80 percent permission rate (Conklin, 1990), highest of all techniques described in the current literature.

Regardless of the method used to obtain permission, the response rate on the part of employers has been relatively high (Head, 1990; Case, 1986; Conklin, 1990; Maryland State Board for Community Colleges, 1986). Employers respond at the rate of 60 to 90 percent when asked for their opinions of specific employees by institutions of higher education. Response rates are highest when the survey mailing includes a copy of the graduate's signed statement granting permission for the employer to respond (Head, 1990).

The literature concerning methods employed by two-year institutions indicates that "broadside" surveys of employers of graduates elicit response rates of 39 to 47 percent, while surveys that identify specific employees attract higher rates of 60 to 90 percent. However, surveys that ask about a specific employee require that person's permission. This additional step reduces the employer pool because only 34 to 48 percent of the alumni typically give their permission. The alumni permission rate can be increased if contact is made by telephone rather than by mail, but the expense of a telephone interview may force those who use this technique to ask fewer questions of alumni than they would include in a mailed questionnaire.

Experience of four-year institutions.

Four-year colleges and universities have much less experience with employer surveys than do two-year institutions, and, in general, their techniques have yielded lower response rates. For instance, four-year institutions identifying employers through placement records have obtained response rates approximating 18 percent (Knoblauch & German, 1989; Atkins & Kent, 1988). By seeking permission to contact employers through a telephone interview with alumni, Harper College obtained permission from 72 percent of its graduates and a response from 78 percent of their employers (Lucas, 1984).

Employer responses

Surveys of employers generally produce positive findings, regardless of the type of institution or the survey methodology applied. Employers rate most employee attributes as important and most specified employees as good or very good. In fact, employer responses have little variance and appear to be the result of a response set rather than carefully considered rankings.

Summary and Research Questions

The literature suggests that the most effective way to obtain alumni permission for employer contact is through a telephone survey, and the least effective way is through a second mailing after an initial response to an alumni survey. In addition, published studies reveal that high percentages of employers respond to college-initiated surveys, but their generally positive employee ratings show little variance. However, these techniques have not been systematically compared by applying different instruments and methods to the same population.

This study undertook that systematic analysis. Over the space of three years, three different methods were used to survey the same population -- graduates of a single four-year institution. The investigators sought to determine the best methodology for gathering

employer opinion -- a valuable source of assessment information for institutions of higher education.

## FIRST ADMINISTRATION

### Methods

The first survey administration took place during the 1989-90 academic year. The subjects for this and two subsequent studies, were graduates of the University of Tennessee, Knoxville and their employers. For the initial study, alumni of the class of 1988 were contacted by mail and invited to participate.

The two questionnaires involved were developed at the University of Tennessee, Knoxville (UTK). The instrument for alumni had been used twice before, while the employer survey was developed exclusively for this study. Appendix 1 includes a copy of the alumni instrument, and Appendix 2 a copy of the employer instrument.

As a part of its performance funding program, the Tennessee Higher Education Commission requires each public institution of higher learning to survey its alumni every other year using a common survey. The 1989-90 academic year was one in which this Alumni Survey was required.

The basic methodology used in this and all other mail surveys conducted at UTK included the following steps. A mailing list of alumni (in this case, the entire 1988 graduating class) was generated, and the survey instrument, along with a letter of explanation and a stamped return envelope, was sent to each person listed. If the alumnus had not responded to the survey after 10 days, a reminder post card was sent. Finally, 20 days after the initial mailing, a second letter and questionnaire were sent to all individuals who still had not responded. This methodology has generally resulted in response rates of between 50 and 60 percent for UTK alumni.

Given the constraints of Tennessee's performance funding requirements, UTK could not alter the language of the survey instrument. Thus the request for permission to contact employers had to be separated from the Alumni Survey process. Immediately following receipt of the Alumni Survey, a second letter was sent to all respondents asking them for permission to contact their employers and for answers to several questions about their employment. Subsequently, employers of those alumni who granted permission were sent the Employer Survey. The same methodology for follow-up was used for both the Employer and Alumni Surveys.

Results

Table 1 records the various response rates for the first administration of the surveys for alumni and their employers. The response to the Alumni Survey was at a rate typical for UTK, and it was found that most of the alumni were employed full time. However, very few of the alumni (21 percent) responded in the affirmative to the second letter asking for permission to contact their employers.

The employer response rate was very high (93%). However, there was little variance among the responses of any given employer. The core of the Employer Survey

Table 1: Response rates for the first administration

| Group | Number | Percent |
|---|---|---|
| Respondents to the Alumni Survey | 1563 | 53% |
| Respondents Employed Full Time | 1217 | 78% |
| Full Time Employed Who Gave Permission | 255 | 21% |
| Employers Who Responded | 236 | 93% |

was a set of 42 items that asked employers to rate on a 3-point scale, ranging from not important to very important, the importance of 21 characteristics of the graduate's job and then to rate on a 4-point scale, ranging from poor to excellent, the performance of the alumnus on these same characteristics. Some examples of these 21 characteristics are planning projects, speaking effectively, writing effectively, being dependable and on time, and using computers. These items were common to all three employer instruments. Of the 9,912 (236 respondents X 42 items) possible responses to these items, 6,623 or 67 percent of them were 3's (very important in terms of importance to the job and good in terms of performance). A response rate that is so uniformly positive is of little value to institutional decision-makers.

Discussion

Response rates for both the Alumni Survey and the Employer Survey were acceptably high using this first administration methodology. However, too few alumni gave permission to contact their employers when they were contacted by means of a second letter. Moreover, those employers who responded to the survey designed for them tended to rate all identified characteristics as very important to the graduate's job and the alumnus as good in all of these areas. It was concluded that if the information from the employer survey was to be useful to college and university personnel, revisions in the methodology were required.

## SECOND ADMINISTRATION

Methods

The second study was undertaken during the 1990-91 academic year. The subjects for this second survey also consisted of UTK alumni and their employers. However,

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instead of surveying an entire graduating class, a representative sample of classes separated by five-year intervals was selected.

1990-91 was not a year during which the common alumni survey was required for the State's performance funding program. The researchers, therefore, revised the Alumni Survey instrument to include additional questions about the graduate's job. The most important revision consisted of asking alumni to rate their performance and the degree to which their education had added to each of the 21 job characteristics previously listed in the Employer Survey instrument. This change was undertaken to permit comparison of answers given by alumni and by employers on the 21 characteristics.

Another important revision involved adding to the Alumni Survey instrument the request for permission to contact the employer. By asking for permission on the primary survey, rather than in a secondary mailing, the researchers hoped to improve the permission rate. Appendix 3 contains a copy of this revised Alumni Survey questionnaire.

The minor changes made in the Employer Survey instrument during the second year involved eliminating a few items that were no longer of interest. The questionnaire in Appendix 2 was the one used in this administration. Both instruments were mailed using the procedure described previously, with the Employer Survey mailing following the Alumni mailing by approximately a month. Thus the methods in the first two administrations studied differed only in that the second questionnaire for alumni contained more job-related items, and a revised procedure for obtaining alumni permission was employed.

## Results

Table 2 contains the response rates for the second survey method. These rates are very similar to those obtained using the first method except for the permission rate. Twice as many alumni gave permission to contact their employer. Eliminating the second mailing

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Table 2: Response rates for the second administration

| Group | Number | Percent |
|---|---|---|
| Respondents to the Alumni Survey | 540 | 54% |
| Respondents Employed Full Time | 410 | 76% |
| Full Time Employed Who Gave Permission | 172 | 42% |
| Employers Who Responded | 162 | 94% |

apparently improved substantially the percentage of alumni who were willing to give permission to contact their employer.

Once again, the response rate for employers was high -- 94 percent, or almost exactly the same as that obtained in the first administration. In addition, employers' responses continued to show little individual variance. Of the potential 8,604 responses to the common items, 4,185 or 62 percent, were assigned the rating of 3 (very important to the graduate's job or good performance by the alumnus). Lack of response variance was still a problem with the employer survey.

## Discussion

Changing the format of the Alumni Survey instrument and the methodology for obtaining permission to contact the graduate's employer did result in an improved alumni permission rate. The Employer Survey instrument, however, continued to evidence the lack of response variance noted in the first administration. Apparently, the lack of employer variance was not the result of a low permission rate, which suggested that only satisfied employees had granted permission, but rather was due to something inherent in the questionnaire design. The investigators determined that the employer questionnaire should be modified in a way that might increase response variance.

## THIRD ADMINISTRATION

Methods

The third survey method was tested during the 1991-92 academic year. Since this was again a year when the common Alumni Survey was required for the performance funding program, the subjects included constituted a full graduating class -- in this case the class of 1989-90. Subsequently, the Employer Survey was sent to those who granted permission for contact with their employers.

The alumni questionnaire was the same as that used in the first year of this study, but the employer instrument was modified in an attempt to increase the variance in employer responses. The response format for the section including the 21 job characteristics described above was modified to eliminate the Likert scales used in previous surveys. In place of those scales, the researchers used a forced-choice format.

Twenty of the characteristics were divided into two groups. One characteristic, which seemed duplicative of another, was eliminated to make it easier to complete the instrument. The employer was instructed to divide 100 points between the 10 characteristics in each group such that the point assignment would represent the relative importance of that characteristic to the graduate's job. A second 100 points was to be divided on the basis of the relative performance of the alumnus on that characteristic. In this way, the employer was forced to choose among the characteristics as opposed to saying all were important. Appendix 4 includes this revision of the Employer Survey.

The methodology for administering the Alumni and Employer Surveys was the same as that reported above, with the exception that a different strategy for gaining alumni permission was used. Since permission could not be requested on the original alumni instrument, as occurred in the second phase of this study, the researchers decided to use a telephone contact process for gaining permission.

Of those responding to the Alumni Survey, the first 721 full-time employed respondents were chosen for contact by telephone. Student interviewers called these alumni over a four- week period and asked them for permission to contact their employers. If he or she agreed, the graduate was asked for the employer's name and address, and then was asked the employment-related questions that had been on the second alumni instrument but not the first. Thus, the investigators made two changes in the methodology for this survey. They changed the response format of the Employer Survey, and they used a telephone contact for gaining the graduate's permission to contact that individual's employer.

Results

Table 3 presents the response rates for the third survey administration method. The alumni response rate is, once again, typical of that obtained via mailed surveys at UTK; and the number of alumni working full time is also typical. The permission rate secured through phone contact is similar to that obtained through direct mail in the second survey, but higher than with the secondary mail contact employed in the first study. Nevertheless, this rate is dependent upon how it is calculated.

The permission rate may be calculated in one of three ways. First, the rate could be the percentage of those who were actually reached by phone. In other words, of those

Table 3: Response rates for the third administration

| Group | Number | Percent |
|---|---|---|
| Respondents to the Alumni Survey | 1253 | 51% |
| Respondents Employed Full Time | 910 | 73% |
| Full Time Employed Who Gave Permission | 220 | 45% |
| Employers Who Responded | 176 | 80% |

people who answered the phone and talked with the caller, how many responded in the affirmative? In the time available for the permission phase, 276 alumni were contacted, and 220 or 80 percent of them granted the university permission to contact their employers. This calculation, however, is not directly comparable to that computed for mailed surveys because it does not take into consideration those individuals who could not be contacted due to wrong numbers or refusal by parents and others to give the researchers the graduate's current phone number.

When these individuals are included in the calculation, the response rate drops to 45 percent. This still may not be directly comparable, though, because many alumni never answered the phone. When these individuals are added to the calculations, the response rate drops to 31 percent.

This study used the second of these three response rate calculations because it represents the best case scenario if the researchers have all the time necessary to contact the alumni. In any case, the permission rate for this method of phone contact is at best no better than that obtained by the single mailing method and at worst is just slightly better than that resulting from the double-mailing method.

The employer portion of this third administration revealed a decrease in response rate. The response rate dropped from 93% in previous administrations to 80% in this administration. While a significant decrease, this is still an excellent response rate.

The forced-choice method apparently affected the response rate because of a perceived lack of time to complete the questionnaire. A small but significant number of respondents wrote to complain about the technique. One employer said it took him 15 minutes to fill out the form and it would have taken 15 more minutes to complete it properly. He went on to say that he and others do not have 30 minutes to participate in this sort of endeavor.

There was greater variance among employer responses in this third administration. The most prevalent response to the common items was a 10, which is exactly the number of points that one would give if they were evenly dividing the points among the items. Of the 7,040 possible responses (176 respondents times 40 questions), 40% were 10s. This percentage represents a decline of more than 20 points in the proportion of common responses assigned by employers in previous administrations. The forced choice method apparently reduced the proportion of common response and thus increased the variance within a given set of ratings.

Discussion

The changes made for this third administration of the surveys made little difference in the permission rate for alumni but made a big difference in variance among employer responses. The permission rate obtained by telephoning alumni was very similar to that obtained through a single mailing technique. Contacting alumni by phone does not seem to improve the permission rate, at least for University of Tennessee graduates, because it is so difficult to get through to them. Requiring employers to distribute points across items instead of using the traditional Likert scale does seem to improve the response variance, but this improvement apparently reduces the employer response rate. Whether or not the increased variance is worth the reduction in responses is a question that must be answered by each institution prior to undertaking a survey of employers.

## GENERAL DISCUSSION

The results of this trial of three methods for surveying alumni and their employers demonstrate that obtaining alumni permission to contact their employers can be a serious problem in employer surveys. Our two-letter procedure drew a very low permission rate, and substituting phone contact for the second letter did not produce substantial

improvement. Employers tended to respond with little variance unless forced to do so by the response format, but a forced-choice format may produce a backlash that will reduce the employers' response rate.

This research, although the only study to systematically test various methodologies, produced the same results as those reported previously in individual studies. Those institutions that have used the two-letter approach have obtained a very low permission rate (University of Hawaii, 1977), while others who contacted their alumni only once obtained rates between 30 and 46 percent (Gell & Jones, 1975; Head, 1990; Isbell & Jonas, 1976). Studies using phone contact have reported a higher response rate -- usually around 80 percent (Conklin, 1990; Lucas, 1984), but this may well be the result of calculating the rate on the basis of those who were actually contacted.

This research suggests that the most cost-effective method for obtaining graduates permission to contact their employers is as a part of an alumni survey or other direct mailing. Phone contact could improve the chances of obtaining permission, but only if the institution has accurate phone numbers and resources for making follow-up phone calls. Employers will tend to respond to their survey with a response set if the methodology allows it. Therefore, researchers should use a forced-choice format when asking about job skills among which they want employers to discriminate.

Employers' opinions about an institution's graduates can be valuable information for improving college and university programs and services. The information can assist faculty as they contemplate needed changes, but to be of most use, the information must be current and must provide for some discrimination among the factors being assessed. For this to occur, institutional researchers must carefully select the survey methodology. This research suggests that no method is without flaws, but that a methodology that includes two mailed surveys, gaining permission from alumni directly on their survey instrument, and forcing employers by the instrument format to differentiate between job characteristics will provide useful information for the improvement of higher education.

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APPENDIX 1

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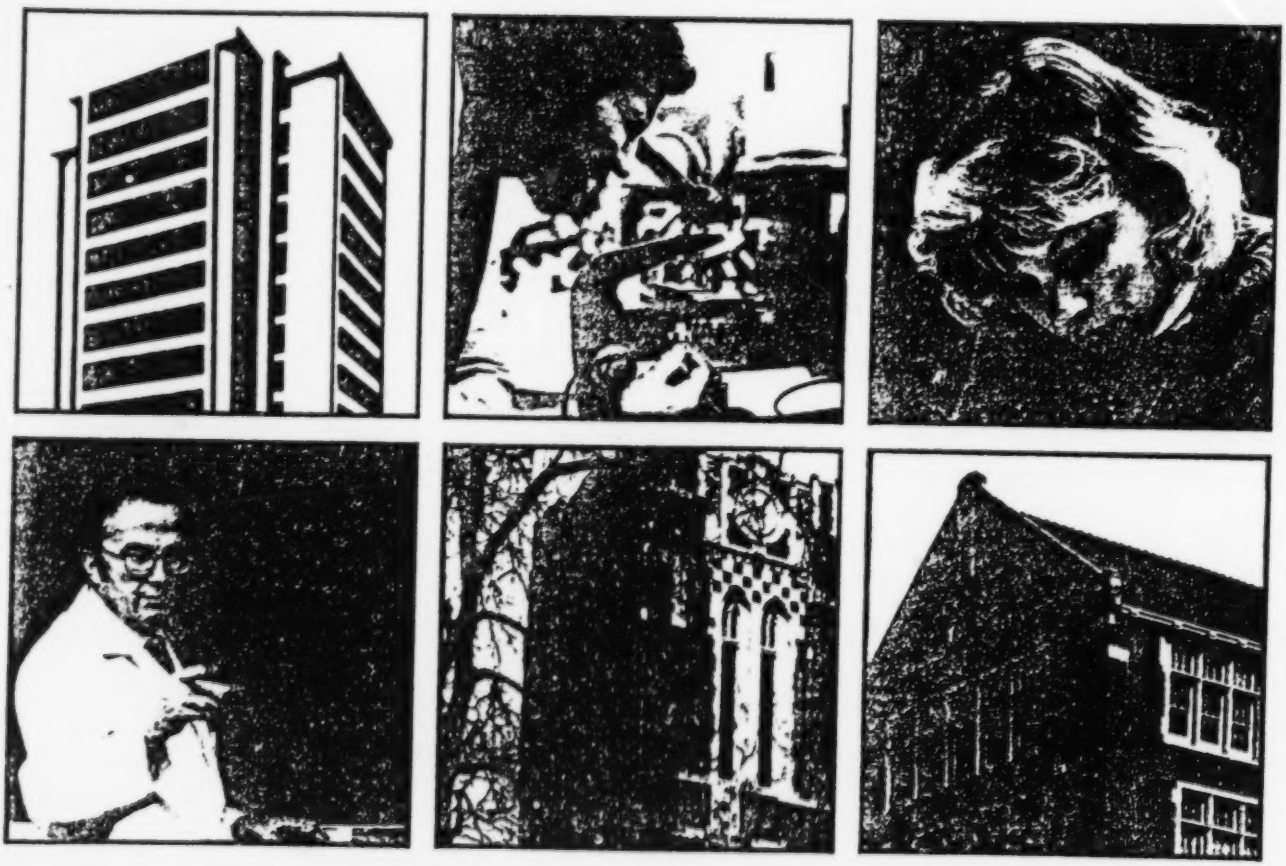
# Survey of Graduates



LEARNING RESEARCH CENTER
The University of Tennessee, Knoxville

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THE UNIVERSITY OF TENNESSEE, KNOXVILLE
ALUMNI SURVEY

In this questionnaire, you will frequently be asked to think back to your days at The University of Tennessee, Knoxville. We would like for you to respond in regard to your undergraduate experiences. Please circle your choice of response.

1. As you look back, how satisfied were you **at the time you graduated** with the educational experience you had at UTK?

   1 VERY DISSATISFIED  2 DISSATISFIED  3 SATISFIED  4 VERY SATISFIED

2. **Now**, how satisfied are you with the educational experience you had at UTK?

   1 VERY DISSATISFIED  2 DISSATISFIED  3 SATISFIED  4 VERY SATISFIED

3. Now, how do you rate the following aspects of your UTK experience?

| | POOR | FAIR | GOOD | EXCELLENT |
|---|---|---|---|---|
| a. Your academic experience? | 1 | 2 | 3 | 4 |
| b. Your social experience? | 1 | 2 | 3 | 4 |
| c. Your cultural experience | 1 | 2 | 3 | 4 |
| d. Your overall experience? | 1 | 2 | 3 | 4 |

4. How often would you say you did each of the following while you were attending UTK?

| | NEVER | SELDOM | OCCASIONALLY | OFTEN |
|---|---|---|---|---|
| a. Used the Library as a quiet place to read or study | 1 | 2 | 3 | 4 |
| b. Developed a bibliography or set of references for a term paper | 1 | 2 | 3 | 4 |
| c. Used Library reference materials | 1 | 2 | 3 | 4 |
| d. Went to an art gallery or exhibit on campus | 1 | 2 | 3 | 4 |
| e. Attended a concert or other musical performance on campus | 1 | 2 | 3 | 4 |
| f. Saw a play on campus | 1 | 2 | 3 | 4 |
| g. Worked on a paper or project where you used a computer | 1 | 2 | 3 | 4 |
| h. Tried to explain a scientific theory to another student | 1 | 2 | 3 | 4 |


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5. Since graduating from UTK, how many times would you say you have...

| | NEVER | ONCE | TWO OR THREE TIMES | MORE THAN THREE TIMES |
|---|---|---|---|---|
| a. Written letters to the editor of papers or magazines? | 1 | 2 | 3 | 4 |
| b. Gone to meetings of, or contributed money to organizations promoting social/political points of view? | 1 | 2 | 3 | 4 |
| c. Gone to meetings of, or contributed money to civic organizations? | 1 | 2 | 3 | 4 |
| d. Contributed time or money to political campaigns? | 1 | 2 | 3 | 4 |
| e. Voted in a city or county election? | 1 | 2 | 3 | 4 |
| f. Voted in an election for the state legislature, Governor, or for the US House or Senate? | 1 | 2 | 3 | 4 |
| g. Gone to a public lecture? | 1 | 2 | 3 | 4 |
| h. Gone to a play? | 1 | 2 | 3 | 4 |
| i. Read a book For pleasure? | 1 | 2 | 3 | 4 |
| j. Gone to a popular music concert? | 1 | 2 | 3 | 4 |
| k. Gone to a classical music concert (symphony, opera, chamber music)? | 1 | 2 | 3 | 4 |

6. While you were at UTK, with how many faculty members did you develop a close rel...onship? (Such that you felt you could ask them for a letter of recommendation)

0 NONE 1 ONE 2 TWO 3 THREE OR MORE

7. While you were at UTK, with how many students did you develop a close friendship?

0 NONE 1 ONE 2 TWO 3 THREE OR MORE

8. **Now,** how many close friendships do you maintain with people you met while you were a student at UTK?

0 NONE 1 ONE 2 TWO 3 THREE OR MORE

9. If you could start college again, would you enroll at UTK?

1 DEFINITELY NOT 2 PROBABLY NOT 3 PROBABLY YES 4 DEFINITELY YES

**YOUR EDUCATION AND ITS IMPACT**

10. In answering the questions in this section, please think of your **overall** experience at UTK, and any effect it may have had on each item. Please indicate the degree to which your education at UTK added to your skills in each of the following areas.

| | VERY LITTLE | SOMEWHAT | VERY MUCH |
|---|---|---|---|
| a. Practical skills necessary to obtain employment in your field | 1 | 2 | 3 |
| b. Getting along with people of different races and ethnic groups | 1 | 2 | 3 |
| c. Ability to grow and learn as a person | 1 | 2 | 3 |
| d. Ability to lead or guide others | 1 | 2 | 3 |
| e. Ability to adjust to new job demands | 1 | 2 | 3 |
| f. Self-confidence in expressing your ideas | 1 | 2 | 3 |
| g. Appreciation of different cultures | 1 | 2 | 3 |
| h. Planning and carrying out projects | 1 | 2 | 3 |
| i. Speaking effectively | 1 | 2 | 3 |
| j. Writing effectively | 1 | 2 | 3 |
| k. Understanding written information | 1 | 2 | 3 |
| l. Understanding graphic information | 1 | 2 | 3 |
| m. Learning on your own | 1 | 2 | 3 |
| n. Defining and solving problems | 1 | 2 | 3 |
| o. Working cooperatively in a group | 1 | 2 | 3 |
| p. Ability to understand mathematical concepts | 1 | 2 | 3 |
| q. Understanding the interaction between people and the environment | 1 | 2 | 3 |
| r. Understanding and appreciating the arts | 1 | 2 | 3 |
| s. Understanding and applying scientific principles and methods | 1 | 2 | 3 |
| t. Understanding different philosophies and cultures | 1 | 2 | 3 |
| u. Ability to use mathematics in everyday life | 1 | 2 | 3 |

A number of the above items were provided with the kind permission of ACT

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## SPECIFIC PROGRAMS RELATED TO THE MAJOR

11. In this section we would like to ask you questions about programs in your major area. Thinking about your major, please rate the quality of each, and its importance to you.

What was your major? _____

How would you rate the quality of each?

| | POOR | FAIR | GOOD | EXCELLENT | NOT APPLICABLE |
|---|---|---|---|---|---|
| a. Availability of your advisor | 1 | 2 | 3 | 4 | 5 |
| b. Willingness of your advisor to help | 1 | 2 | 3 | 4 | 5 |
| c. Quality of courses for providing a good general education | 1 | 2 | 3 | 4 | 5 |
| d. Quality of courses for preparing for employment | 1 | 2 | 3 | 4 | 5 |
| e. Fairness of grading in the major | 1 | 2 | 3 | 4 | 5 |
| f. Quality of instruction in the major | 1 | 2 | 3 | 4 | 5 |
| g. Opportunities for interaction with faculty in the major | 1 | 2 | 3 | 4 | 5 |
| h. Availability of professional activities or clubs in the major | 1 | 2 | 3 | 4 | 5 |
| i. Quality of courses in the major in preparing for graduate or professional school | 1 | 2 | 3 | 4 | 5 |
| j. Availability of faculty to help students outside of class | 1 | 2 | 3 | 4 | 5 |
| k. Availability of faculty to talk informally | 1 | 2 | 3 | 4 | 5 |
| l. Expertise of faculty in the major | 1 | 2 | 3 | 4 | 5 |

12. If you could choose your major over again, would you choose the same major?

1 DEFINITELY NOT 2 PROBABLY NOT 3 PROBABLY YES 4 DEFINITELY YES

## EMPLOYMENT AND BACKGROUND INFORMATION

In this section, you will be asked questions about your employment, along with other questions which will allow your responses to be compared to those of others. Again, all your responses are completely confidential.

13. Which of the following best describes your present employment situation?

1 WORKING FULL-TIME (NOT SELF-EMPLOYED)
2 WORKING PART-TIME (NOT SELF-EMPLOYED)
3 SELF-EMPLOYED
4 SERVING IN THE ARMED FORCES
5 CARING FOR A HOME AND FAMILY
6 UNEMPLOYED

14. Are you presently enrolled in a college or university?

1 NO
2 YES, PART-TIME UNDERGRADUATE
3 YES, FULL-TIME UNDERGRADUATE
4 YES, PART-TIME GRADUATE / PROFESSIONAL
5 YES, FULL-TIME GRADUATE / PROFESSIONAL

15. Are you employed in the field in which you were educated? If not, why not? Choose the best response.

1 I WAS (AM) EMPLOYED IN MY MAJOR FIELD
2 I COULD NOT FIND A JOB IN MY FIELD
3 I DEVELOPED NEW CAREER INTERESTS SINCE LEAVING COLLEGE
4 THE JOBS IN MY FIELD DID NOT PAY WELL
5 THE JOBS IN MY FIELD DID NOT OFFER OPPORTUNITIES FOR ADVANCEMENT
6 I AM NOT PRESENTLY EMPLOYE

16. How did you become aware of the opening which became your first job after graduation?

1 WAS ALREADY WORKING IN THE JOB
2 COOPERATIVE EDUCATION PROJECT
3 COLLEGE PLACEMENT OFFICE
4 PROFESSIONAL PLACEMENT OFFICE
5 NEWSPAPER ADVERTISEMENT
6 DIRECT CONTACT WITH EMPLOYER
7 FACULTY CONTACT OR REFERENCE
8 CONTACT THROUGH FRIEND OR RELATIVE
9 PUBLIC OR PRIVATE EMPLOYMENT AGENCY
10 OTHER - PLEASE SPECIFY _____

17. How do you feel about the type of work you do in your job?

1 VERY DISSATISFIED
2 DISSATISFIED
3 SATISFIED
4 VERY SATISFIED
5 NOT APPLICABLE

18. How do you feel about the pay in your job?

1 VERY DISSATISFIED
2 DISSATISFIED
3 SATISFIED
4 VERY SATISFIED
5 NOT APPLICABLE

19. Did you work while you were attending UTK?

1 NO
2 YES ON CAMPUS
3 YES OFF CAMPUS

20. If you worked, while attending UTK, on average, about how many hours did you work?

1 FEWER THAN 10
2 10 TO 19 HOURS
3 20 TO 29 HOURS
3 30 TO 40 HOURS
4 OVER 40 HOURS
5 I DID NOT WORK

21. Are you now looking for another job?

1 NO 2 YES

22. What is your current annual salary?

1 LESS THAN $10,000
2 $10,000 - $14,999
3 $15,000 - $19,999
4 $20,000 - $24,999
5 $25,000 - $29,999
6 $30,000 - $34,999
7 $35,000 - $39,999
8 $40,000 - $49,999
9 $50,000 - $59,999
10 $60,000 - $70,000
11 OVER $70,000
12 NOT APPLICABLE

23. Where did you live for the greatest amount of time when you attended UTK?

1 DORMITORY
2 FRATERNITY/SORORITY HOUSE
3 APARTMENT, HOUSE, TRAILER
4 HOME WITH PARENTS

24. For the most part, were you a part-time or full-time student while attending UTK?

1 PART-TIME
2 FULL-TIME

25. How old were you when you began college?

_____

26. How old are you now?

_____

27. What is your sex?

1 FEMALE 2 MALE

28. What is your race?

1 BLACK 3 OTHER
2 WHITE

29. How would you characterize your **undergraduate** preparation for graduate work in your field?

1 POOR
2 FAIR
3 GOOD
4 EXCELLENT
5 NOT APPLICABLE

30. How would you characterize the preparation you received at UTK for further undergraduate work at another institution?

1 POOR
2 FAIR
3 GOOD
4 EXCELLENT
5 NOT APPLICABLE

31. Which of the following best describes your mother's level of education?

1 LESS THAN HIGH SCHOOL GRADUATE
2 HIGH SCHOOL GRADUATE
3 SOME COLLEGE
4 COLLEGE GRADUATE
5 GRADUATE TRAINING

32. Which of the following best describes your father's level of education?

1 LESS THAN HIGH SCHOOL GRADUATE
2 HIGH SCHOOL GRADUATE
3 SOME COLLEGE
4 COLLEGE GRADUATE
5 GRADUATE TRAINING

33. Where was your home before you began at UTK?

1 EAST TENNESSEE
2 MIDDLE TENNESSEE
3 WEST TENNESSEE
4 OTHER SOUTHEASTERN STATE
5 NORTHEAST
6 MIDWEST
7 SOUTHWEST
8 WEST OR NORTHWEST
9 OUTSIDE THE US

34. Where is your home now?

1 EAST TENNESSEE
2 MIDDLE TENNESSEE
3 WEST TENNESSEE
4 OTHER SOUTHEASTERN STATE
5 NORTHEAST
6 MIDWEST
7 SOUTHWEST
8 WEST OR NORTHWEST
9 OUTSIDE THE US

35. Was your home less than, or greater than 30 miles from UTK when you began there?

1 CLOSER THAN 30 MILES
2 GREATER THAN 30 MILES

36. What was the size of the community where you spent most of your life before you were sixteen?

1 A FARM
2 RURAL AREA, BUT NOT A FARM
3 TOWN LESS THAN 2,500
4 TOWN 2,500 - 24,500
5 SMALL CITY 25,000 - 100,000
6 LARGE CITY OVER 100,000

37. Please circle the number next to each activity in which you participated.

1 STUDENT GOVT.
2 HONORS PROGRAM
3 CO-OP PROGRAM
4 CLUB IN YOUR MAJOR
5 ART/MUSIC/DRAMA
6 INTRAMURAL SPORTS
7 EDUCATIONAL TRAVEL
8 HONOR SOCIETIES
9 FRATERNITY OR SORORITY
10 INTERNSHIP IN MAJOR
11 VARSITY SPORTS

38. Had a member of your immediate family attended UTK before you began?

1 NO
2 YES

39. Outside of class, approximately how many hours did you spend on campus each week while you were attending UTK?

1 LESS THAN TEN 3 TWENTY TO THIRTY
2 TEN TO TWENTY 4 GREATER THAN THIRTY

APPENDIX 2

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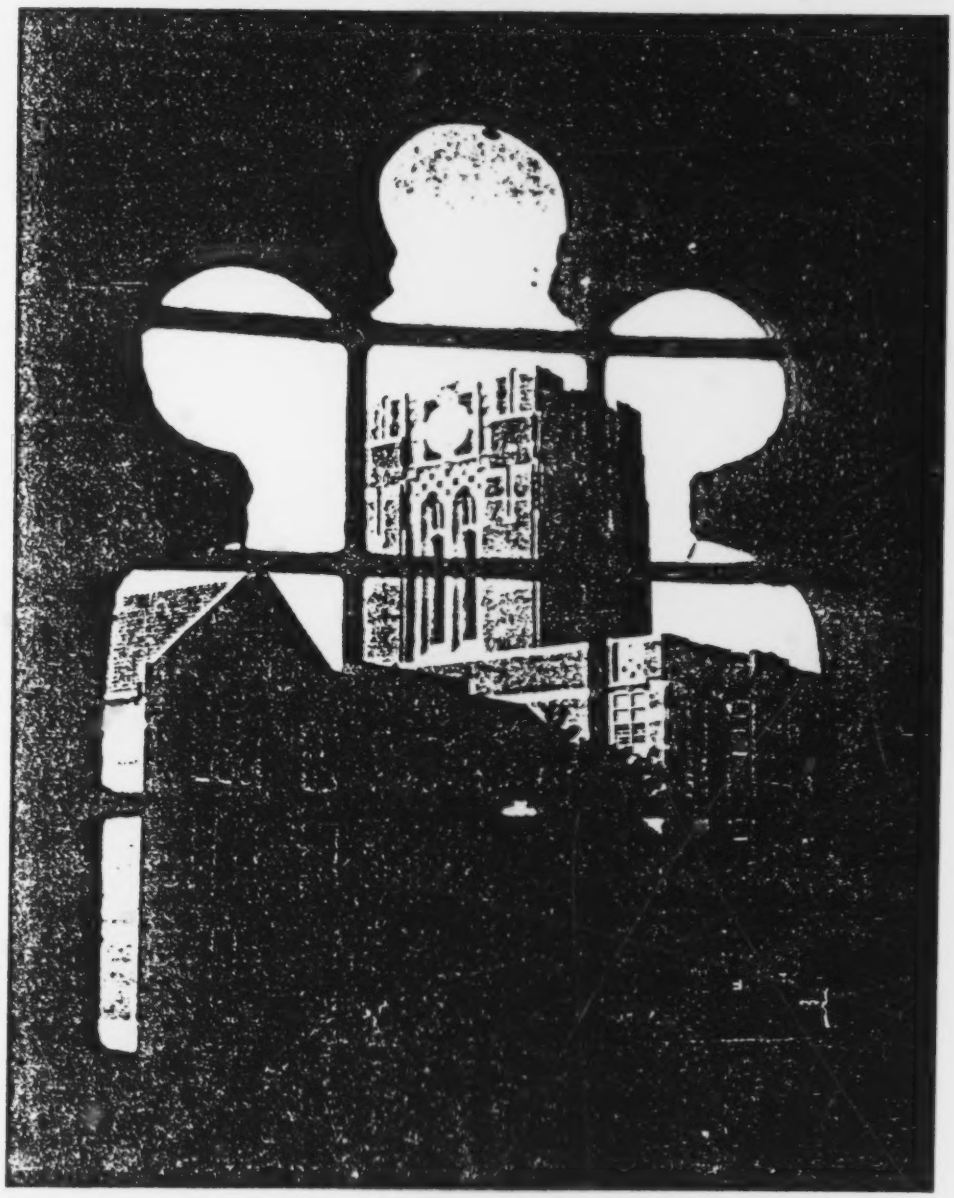
THE UNIVERSITY OF TENNESSEE, KNOXVILLE

# EMPLOYER SURVEY



Center for Assessment Research and Development

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THE UNIVERSITY OF TENNESSEE, KNOXVILLE
EMPLOYER SURVEY

In this questionnaire, you will be asked about the job performance of a particular employee, the UT Knoxville graduate whose name is listed in the accompanying letter. Again, this employee has given us permission to seek this evaluation. Please be assured that in no way will your identity or that of the employee be reported in connection with answers you provide here.

1. Overall, how satisfied do you think this employee is with the type of work he/she is doing on the job?

   1 Very Dissatisfied 2 Dissatisfied 3 Satisfied 4 Very Satisfied

2. Overall, how satisfied do you think this employee is with his/her pay?

   1 Very Dissatisfied 2 Dissatisfied 3 Satisfied 4 Very Satisfied

3. Overall, which of the following best describes this employee's job performance?

   1 Poor 2 Fair 3 Good 4 Excellent

4. Would you hire this employee again for the same position, now that you have worked with him/her?

   1 Definitely Not 2 Probably Not 3 Probably 4 Definitely

5. Would you recommend this employee for a promotion, now that you have worked with him/her?

   1 Definitely Not 2 Probably Not 3 Probably 4 Definitely

6. Overall, how do you think this employee's general education (obtained in courses in social science, science, math, and English) compares with that of other employees in comparable positions?

   1 Poor 2 Fair 3 Good 4 Excellent 5 No Opinion

7. Overall, how does the employee's quality of education in his/her area of specialization (or major) compare with that of other employees in comparable positions?

   1 Poor 2 Fair 3 Good 4 Excellent 5 His/Her Major Not Relevant In This Job

8. Overall, to what extent does this employee possess the characteristics you would expect from a college graduate?

   1 Does Not Meet My Expectations 2 Meets My Expectations 3 Exceeds My Expectations

9. Please assess in two ways the following traits in reference to the position held by this employee. How important is each trait to successful job performance? Compared to others, please rate this employee's performance.

| | | Importance to successful job performance of a person holding this position | | | This employee's performance compared to others you have employed in similar positions | | | |
|---|---|---|---|---|---|---|---|---|
| | | NOT IMPORTANT | SOMEWHAT IMPORTANT | VERY IMPORTANT | POOR | FAIR | GOOD | EXCELLENT |
| a. | Planning projects | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| b. | Speaking effectively | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| c. | Writing effectively | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| d. | Reading effectively | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| e. | Listening effectively | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| f. | Defining problems | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| g. | Solving problems | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| h. | Understanding written information | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| i. | Processing and interpreting numerical data | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| j. | Working with computers | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| k. | Applying job-related technical skills | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| l. | Thinking creatively | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| m. | Working cooperatively | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| n. | Leading others | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| o. | Adjusting to new job demands | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| p. | Being dependable and on-time | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| q. | Working under pressure | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| r. | Working with minimal supervision | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| s. | Handling several tasks at once | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| t. | Making decisions under pressure | 1 | 2 | 3 | 1 | 2 | 3 | 4 |
| u. | Working with people from diverse backgrounds | 1 | 2 | 3 | 1 | 2 | 3 | 4 |

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10. How many people do you supervise directly? _____

11. How long have you supervised this employee? _____

12. Did you attend the University of Tennessee, Knoxville?

1 No 2 Attended, But Did Not Graduate 3 Graduated From UTK

13. What is your gender? 1 Male 2 Female

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Thank you very much for assisting us. If you would like to add any comments, please use the space below. Please return your completed questionnaire in the enclosed postage-paid envelope.

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APPENDIX 3

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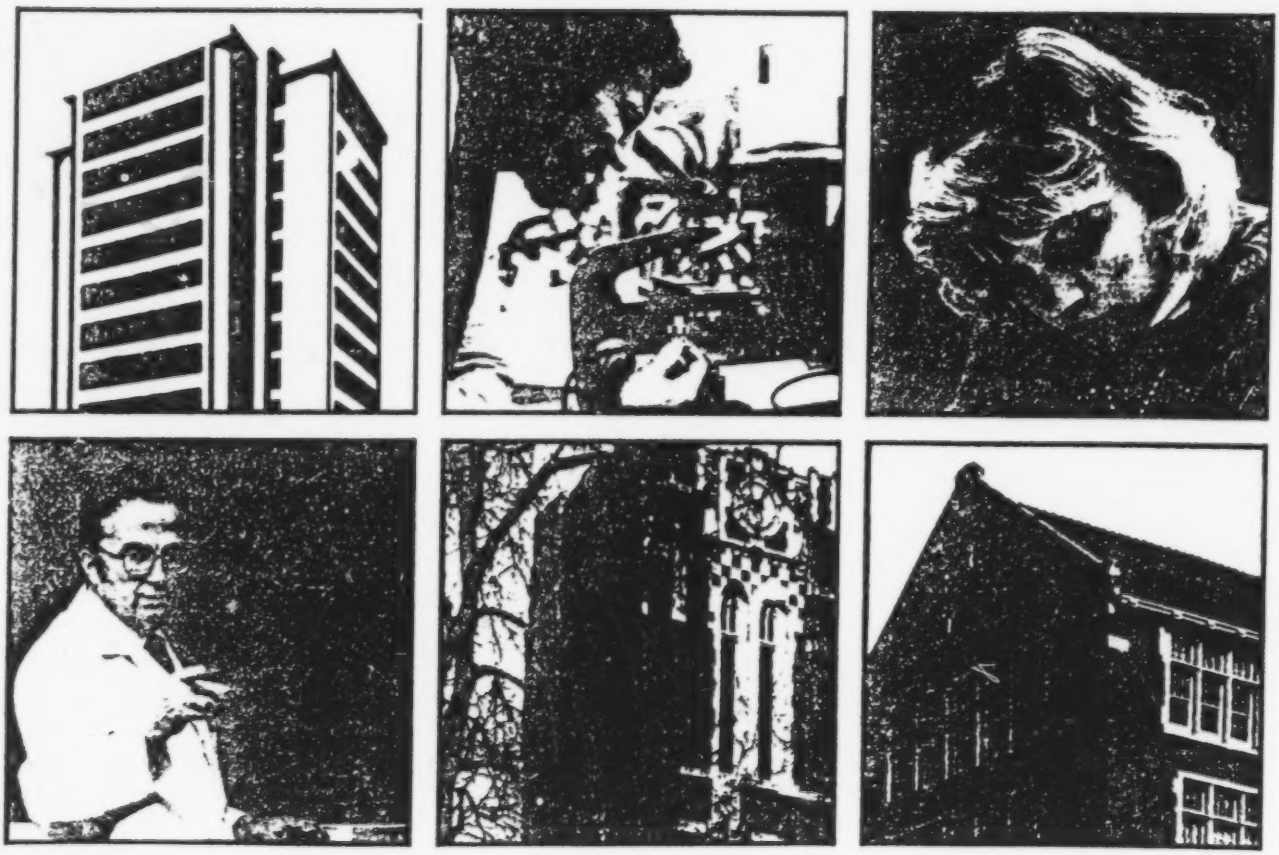
# Survey of Graduates



LEARNING RESEARCH CENTER
The University of Tennessee, Knoxville

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THE UNIVERSITY OF TENNESSEE, KNOXVILLE
ALUMNI EMPLOYMENT SURVEY Employer survey critique / 36

In this questionnaire, you will frequently be asked to think back to your days at The University of Tennessee, Knoxville. As you respond, please refer to your undergraduate experiences. Please CIRCLE the number of each response you select.

1. Now, how satisfied are you with the educational experience you had at UTK?

1 VERY DISSATISFIED 2 DISSATISFIED 3 SATISFIED 4 VERY SATISFIED

2. Now, how do you rate the following aspects of your UTK experience?

| | | POOR | FAIR | GOOD | EXCELLENT |
|---|---|---|---|---|---|
| a. | Your academic experience? | 1 | 2 | 3 | 4 |
| b. | Your social experience? | 1 | 2 | 3 | 4 |
| c. | Your cultural experience? | 1 | 2 | 3 | 4 |
| d. | Your general education? | 1 | 2 | 3 | 4 |
| e. | Your experience in your major? | 1 | 2 | 3 | 4 |
| f. | Your overall experience? | 1 | 2 | 3 | 4 |

3. Please indicate the extent to which you agree or disagree with each of the following.

| | | STRONGLY DISAGREE | DISAGREE | AGREE | STRONGLY AGREE |
|---|---|---|---|---|---|
| a. | At UTK, I developed close personal relationships with faculty | 1 | 2 | 3 | 4 |
| b. | My relations with faculty had a positive influence on my personal growth, attitudes, and values | 1 | 2 | 3 | 4 |
| c. | My relations with faculty had a positive influence on my intellectual growth and interest in ideas | 1 | 2 | 3 | 4 |
| d. | My relations with faculty had a positive influence on my career goals and aspirations | 1 | 2 | 3 | 4 |

4. While you were at UTK, with how many faculty members did you develop a close relationship? (such that you felt you could ask them for a letter of recommendation)

0 NONE 1 ONE 2 TWO 3 THREE OR MORE

5. In answering the questions in the first column, please rate your **work performance** as compared to that of those in similar positions. In answering those in the second column, please think of your **overall experience** at UTK, and any effect it may have had on each item.

| | | **How do you feel your performance compares to that of others employed in similar positions?** | | | | **Please indicate the degree to which your education at UTK added to your skills in each of the following areas** | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | POOR | FAIR | GOOD | EXCELLENT | NOT AT ALL | SOMEWHAT | VERY | MUCH |
| a. | Planning projects | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| b. | Speaking effectively | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| c. | Writing effectively | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| d. | Reading effectively | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| e. | Listening effectively | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| f. | Defining problems | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| g. | Solving problems | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| h. | Understanding written information | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| i. | Processing and interpreting numerical data | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| j. | Working with computers | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| k. | Applying job-related technical skills | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| l. | Thinking creatively | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| m. | Working cooperatively | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| n. | Leading others | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| o. | Adjusting to new job demands | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| p. | Being dependable and on-time | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| q. | Working under pressure | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| r. | Working with minimal supervision | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| s. | Handling several tasks at once | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| t. | Making decisions under pressure | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |
| u. | Working with people from diverse backgrounds | 1 | 2 | 3 | | 1 | 2 | 3 | 4 |



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In this section, you will be asked questions about your employment, along with other questions which will allow your responses to be compared to those of others. Again, all your responses are completely confidential.

6. Which of the following best describes your present employment situation?

1 SELF-EMPLOYED
2 WORKING FULL-TIME (Not Self-Employed)
3 WORKING PART-TIME (Not Self-Employed)
4 SERVING IN THE ARMED FORCES
5 CARING FOR A HOME & FAMILY
6 UNEMPLOYED

7. Are you presently enrolled in a college or university?

1 NO
2 YES, PART-TIME UNDERGRADUATE
3 YES, FULL-TIME UNDERGRADUATE
4 YES, PART-TIME GRADUATE/PROFESSIONAL
5 YES, FULL-TIME GRADUATE/PROFESSIONAL

8. Are you employed in the field in which you were educated? If not, why? Choose the best response.

1 I WAS (AM) EMPLOYED IN MY MAJOR FIELD
2 I COULD NOT FIND A JOB IN MY FIELD
3 I DEVELOPED NEW CAREER INTERESTS AFTER LEAVING COLLEGE
4 THE JOBS IN MY FIELD DID NOT PAY WELL
5 THE JOBS IN MY FIELD DID NOT OFFER OPPORTUNITIES FOR ADVANCEMENT
6 I AM NOT PRESENTLY EMPLOYED

9. How did you become aware of the opening that became your first job after graduation?

1 WAS ALREADY WORKING IN THE JOB
2 COOPERATIVE EDUCATION PROJECT
3 COLLEGE PLACEMENT OFFICE
4 PROFESSIONAL PLACEMENT OFFICE
5 NEWSPAPER ADVERTISEMENT
6 DIRECT CONTACT WITH EMPLOYER
7 FACULTY CONTACT OR REFERENCE
8 CONTACT THROUGH FRIEND OR RELATIVE
9 PUBLIC OR PRIVATE EMPLOYMENT AGENCY
10 OTHER - PLEASE SPECIFY_____

10. Overall, how satisfied are you with the type of work you do in your job?

1 VERY DISSATISFIED
2 DISSATISFIED
3 SATISFIED
4 VERY SATISFIED
5 NOT APPLICABLE

11. How satisfied are you with the pay in your job?

1 VERY DISSATISFIED
2 DISSATISFIED
3 SATISFIED
4 VERY SATISFIED
5 NOT APPLICABLE

12. How do you generally feel about the employees with whom you work?

1 VERY DISSATISFIED
2 DISSATISFIED
3 SATISFIED
4 VERY SATISFIED
5 NOT APPLICABLE

13. If you worked while attending UTK, on average, about how many hours did you work each week?

1 FEWER THAN 10
2 10 TO 19 HOURS
3 20 TO 29 HOURS
4 30 TO 40 HOURS
5 OVER 40 HOURS
6 I DID NOT WORK

14. Are you now looking for another job?

1 NO 2 YES

15. What is your current annual salary?

1 LESS THAN $10,000
2 $10,000 - $14,999
3 $15,000 - $19,999
4 $20,000 - $24,999
5 $25,000 - $29,999
6 $30,000 - $34,999
7 $35,000 - $39,999
8 $40,000 - $49,999
9 $50,000 - $59,999
10 $60,000 - $70,000
11 OVER $70,000
12 NOT APPLICABLE

16. Please circle the number next to each activity in which you participated while at UTK.

1 Student Govt.
2 Honors Program
3 Co-op Program
4 Club in major
5 Art/Music/Drama
6 Intramural Sports
7 Educational Travel
8 Honor Societies
9 Fraternity or Sorority
10 Internship in major
11 Varsity Sports

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The following questions are about the job you now have.

1. What is your current job title? _____

   Briefly list your major responsibilities.

   _____

   _____

2. Which of the following best describes the organization for which you work? (Circle one)

   1. Self-employed
   2. Privately-held firm owned by others
   3. Stockholder-held corporation
   4. Not-for-profit organization
   5. Federal government
   6. State or local government
   7. Educational institution
   8. Other (please explain) _____

3. What is the size of this organization? _____ Employees

4. What is the age of this organization? _____

5. How long have you been with this organization? _____

6. How long have you been in your current position? _____

As part of this study, we would like to send a questionnaire to your supervisor. His or her answers would help us a great deal in making sure that UTK graduates are provided the best possible education. Of course, this is completely voluntary. We can assure you that both his/her responses and yours are completely confidential. If you would agree to this followup, please give us the name and address of the person for whom you work most directly, that is, your immediate supervisor, and sign the enclosed consent form. Even if you do not choose to provide us with the name of your supervisor, we would appreciate your returning this completed survey in the enclosed postage-paid envelope.

Circle one
Mr/Ms:_____

Position: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone: (____) _____

It would be helpful for you to tell your supervisor that he/she may expect to receive a questionnaire from the University of Tennessee, Knoxville.

If you have any other comments to make about your experience at The University of Tennessee, Knoxville and its effect on your employment, please use the space below.

060

Please take a few minutes to be sure that you have answered all the questions on every page. Once you have completed the questionnaire, please refold it and mail it to us in the enclosed postage-paid envelope. Thank you very much for your help.

Center for Assessment Research and Development
1819 Andy Holt Avenue
Knoxville, Tennessee 37912

APPENDIX 4

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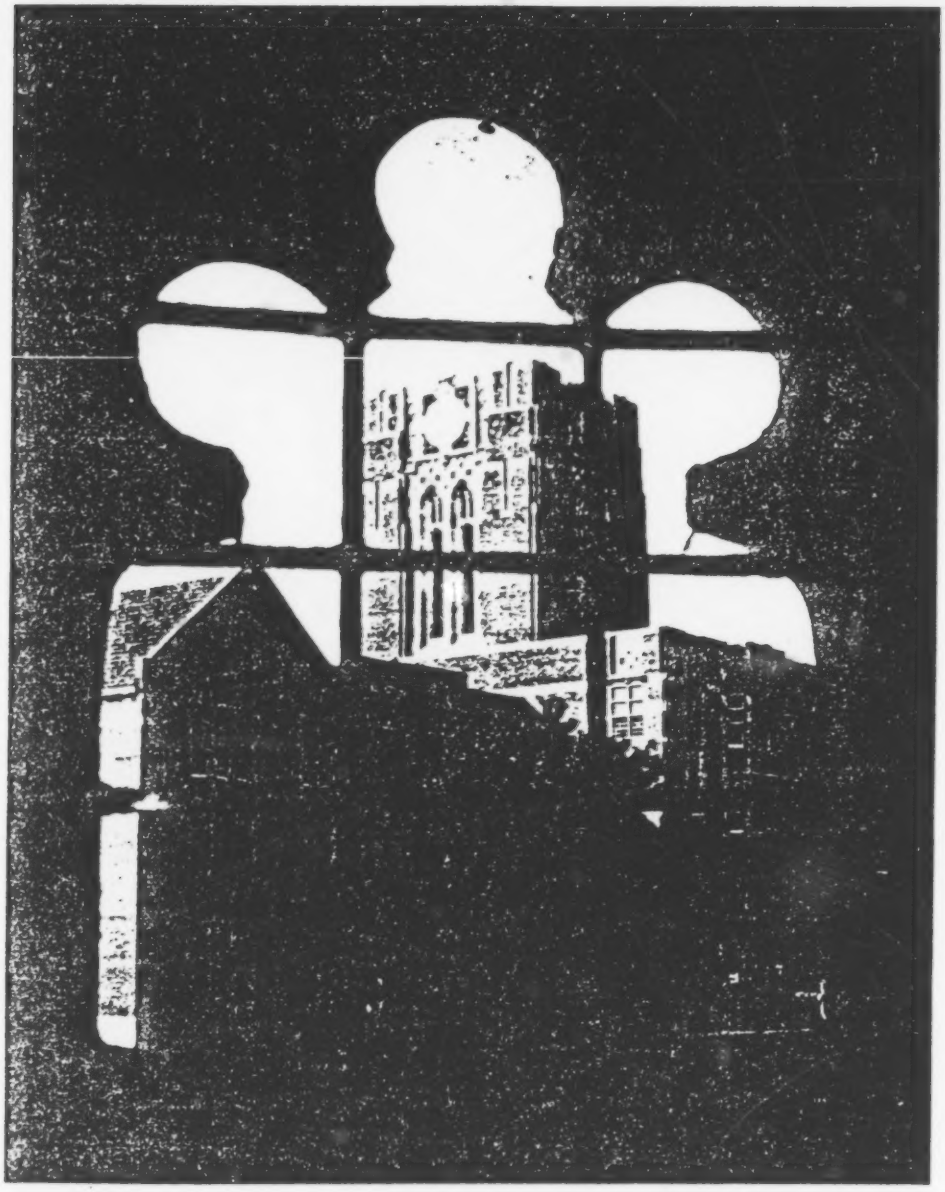
THE UNIVERSITY OF TENNESSEE, KNOXVILLE

# EMPLOYER SURVEY



Center for Assessment Research and Development

BEST COPY AVAILABLE

THE UNIVERSITY OF TENNESSEE, KNOXVILLE
EMPLOYER SURVEY

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In this questionnaire, you will be asked about the job performance of a particular employee -- the UT Knoxville graduate whose name is listed in the accompanying letter. Again, this employee has given us permission to seek this evaluation. Please be assured that in no way will your identity or that of the employee be reported in connection with answers you provide here. **Please circle the number of your response.**

1. Overall, how **satisfied** do you think this employee is with the **type of work** he/she is doing on the job?

1 Very Dissatisfied 2 Dissatisfied 3 Satisfied 4 Very Satisfied

2. Overall, how **satisfied** do you think this employee is with his/her **pay**?

1 Very Dissatisfied 2 Dissatisfied 3 Satisfied 4 Very Satisfied

3. Overall, which of the following best describes this employee's **job performance**?

1 Poor 2 Fair 3 Good 4 Excellent

4. Would you **hire this employee again** for the same position, now that you have worked with him/her?

1 Definitely Not 2 Probably Not 3 Probably 4 Definitely

5. Would you **recommend** this employee for a **promotion**, now that you have worked with him/her?

1 Definitely Not 2 Probably Not 3 Probably 4 Definitely

6. Overall, how do you think this employee's **general education** (obtained in courses in social science, science, math, and English) compares with that of other employees in comparable positions?

1 Poor 2 Fair 3 Good 4 Excellent 5 No Opinion

7. Overall, how does the employee's quality of education in his/her **area of specialization** (or major) compare with that of other employees in comparable positions?

1 Poor 2 Fair 3 Good 4 Excellent 5 His/Her Major Not Relevant in This Job

8. Overall, to what extent does this employee possess the characteristics you would expect from a **college graduate**?

1 Does Not Meet My Expectations 2 Meets My Expectations 3 Exceeds My Expectations

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9. Please assess the job skills and personal characteristics listed on this and the following page in reference to the position held by this employee. In the column marked importance assess how important each skill or trait is to successful job performance in this employee's position, and in the column marked performance assess how good this employee's performance is compared to others holding the same type of job.

In each column, you have a total of 100 points to allocate among 10 job skills on this page and 10 personal characteristics on the following page. The points you choose to assign to each skill or characteristic represent its relative importance to the job or the relative performance of the employee. For example, if an item reflects something that is very important to the job, you may want to assign it a score of 20 or 30. An item that is twice as important as another should receive twice as many points. You may assign 0 points to an item, or you may (although this is highly unlikely) assign 100 points. The total number of points in each column must total 100.

**BEFORE ASSIGNING POINTS WITHIN A COLUMN, PLEASE READ ALL OF THE ITEMS TO BE RATED.**

| JOB SKILLS | IMPORTANCE TO JOB PERFORMANCE (Allocate 100 Points) | PERFORMANCE OF THIS EMPLOYEE (Allocate 100 Points) |
|---|---|---|
| a. Planning projects | _____ | _____ |
| b. Speaking effectively | _____ | _____ |
| c. Writing effectively | _____ | _____ |
| d. Reading effectively | _____ | _____ |
| e. Listening effectively | _____ | _____ |
| f. Defining problems | _____ | _____ |
| g. Solving problems | _____ | _____ |
| h. Understanding written information | _____ | _____ |
| i. Processing and interpreting numerical data | _____ | _____ |
| j. Working with computers | _____ | _____ |
| TOTAL POINTS | 100 | 100 |

Please follow the same procedures for rating Personal Characteristics as you did for rating Job Skills.

| PERSONAL CHARACTERISTICS | IMPORTANCE TO JOB PERFORMANCE (Allocate 100 Points) | PERFORMANCE OF THIS EMPLOYEE (Allocate 100 Points) |
|---|---|---|
| a. Applying job-related technical skills | _____ | _____ |
| b. Working cooperatively | _____ | _____ |
| c. Leading others | _____ | _____ |
| d. Adjusting to new job demands | _____ | _____ |
| e. Being dependable and on-time | _____ | _____ |
| f. Working under pressure | _____ | _____ |
| g. Working with minimal supervision | _____ | _____ |
| h. Handling several tasks at once | _____ | _____ |
| i. Making decisions under pressure | _____ | _____ |
| j. Working with people from diverse backgrounds | _____ | _____ |
| TOTAL POINTS | 100 | 100 |

10. How many people do you supervise directly? _____

11. How long have you supervised this employee? _____

12. Did you attend the University of Tennessee, Knoxville?

1 No 2 Attended, But Did Not Graduate 3 Graduated From UTK

13. What is your gender? 1 Male 2 Female

**Thank you very much for assisting us. If you would like to add any comments, please use the space below or a separate sheet of paper. Please return your completed questionnaire in the enclosed postage-paid envelope.**

# APPENDIX B

## QUALITY IMPROVEMENT IN HIGHER EDUCATION:

## AN OVERVIEW

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# Quality Improvement in Higher Education:

# An Overview

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University of Tennessee, Knoxville
and
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--Research Report--
RR 91-14

# QUALITY IMPROVEMENT IN HIGHER EDUCATION: AN OVERVIEW

by

David Sylwester, University of Tennessee, Knoxville

and

John Harris, Samford University

## ABSTRACT

Higher education is faced with increasing demands from society to improve its effectiveness with fewer financial resources. We believe that a successful response can be found in a renewed approach to education and the management of the educational enterprise. This approach, already well established in industry, has several key elements: a strong customer orientation, proactive leadership by the president and all other top officers, an emphasis on studying and improving systems and processes, a commitment to constant improvement by all faculty and staff, and the vigorous and systematic development of employee skills.

The process of improvement begins with building within the academic community a clear understanding and articulation of the institution's mission, customers, values, and vision. An accent on systems and processes facilitates aligning the activities at all levels with the institution's mission, values, and vision. Tools that have been found useful in carrying out the work are briefly mentioned and illustrated.

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## INTRODUCTION

Education, including higher education, is widely criticized today for its failure to educate our populace. Students complain of ineffective and uncaring teachers. Parents are upset by costs. Employers cite both the lack of knowledge of graduates and their inability to quickly become effective team members in today's complex organizations. State legislators, faced with the difficult problem of allocating scarce resources, are demanding greater accountability by educational institutions. The chorus has become more vocal as we recognize that our country is now only one of the many participants in the highly competitive global economy. Something needs to be done - but what?

In striving to remain competitive in the world market, many United States firms have found success in taking new approaches to doing business. The key elements are:

- An intense interest in satisfying their customer
- Managerial commitment to long-term improvement
- The development of a very valuable resource: their employees
- Understanding work activities as systems and processes
- Using scientific and statistical thinking to study and improve systems and processes

While these elements may appear obvious, experience has shown that their implementation is extremely difficult. It requires strong and clear leadership, widespread understanding and participation by all employees, and a profound change in attitudes and behavior.

American higher education is already regarded as the best in the world. Why should we be concerned about improving it? We believe that higher education, like business, government, and industry, can profit from a vigorous, coordinated effort directed toward continuous improvement of all its activities. We include here

administrative and support services as well as the central research and educational efforts. Education, especially higher education, places great value on (or at least gives lip service to) that undefined characteristic termed "excellence". That goal, while certainly admirable, proves elusive in practice, especially in today's environment of diminishing resources. What is needed is a new approach to attain excellence.

Educational organizations are highly complex with myriad competing interests - and this complexity can make it difficult to introduce changes both in goals and operations. But on the other hand, note that faculty and students are deeply involved in creating and testing new ideas almost on a daily basis. We believe that institutions can harness the energies and talents of faculty, staff, and students to create an educational system that will reach new levels of excellence and effectiveness. In this paper we describe and illustrate concepts and methods of quality improvement as they might be applied in higher education.

## WHAT DO WE MEAN BY A QUALITY INSTITUTION?

Higher education has traditionally defined quality in terms of "richness of resources"; its alternative is "richness of benefits". We shall take a broader view:

> **Quality is continuously facilitating the improvement of processes for learning, research and service that meet or even exceed the expectations of students and all other customers.**

This definition refers not to a static situation but rather to a dynamic ongoing process by which constant improvement takes place. The definition is perhaps troublesome for it requires both thought and effort to determine and document that a particular activity is of high quality. For example, one can't identify a quality course simply by looking at the syllabus, the textbook, and the teacher's credentials. One must ascertain the extent to which the course is continuously evolving to meet the needs and requirements of the customers - the students, employers, and the teachers of follow-on courses.

Because of this definition we say that *quality is customer driven.* Adopting this point of view can profoundly change both our attitudes and actions in professional life. Essentially, a new culture will come into existence within the institution. One happy consequence of the new culture is establishment of mutual cooperation as a basic operating principle. When people are cooperating in reaching a goal, more can be accomplished with the resources available. For example, faculty actions to link courses could vastly improve the student's educational experience. But such action requires that the faculty commit the time necessary (as well as perhaps make changes in what they teach) to create the linkages.

Six guiding principles are key to being a quality institution as we have defined it. We mention them here and discuss them in the sections that follow.

1. There must be a culture change within the institution that emphasizes a pervasive commitment to its customers.

2. The activities of the academic community must be aligned with the institution's mission and goals.

3. The leadership must proactively lead the process of constant improvement.

4. Everyone in the institution must actively participate.

5. There must be an emphasis on the study and improvement of processes (in contrast with simply managing events).

6. Quantitative thinking, along with competence in group problem-solving skills and relevant statistical procedures, must be widespread in the institution.

The phrase "serving one's customers" is not in common usage on campuses. But if we define a customer as one who receives something of value from another, than a moment's reflection will identify customers that we each have. The library serves faculty and staff who check out books and use other library services. The engineering teacher is the customer of the calculus teacher. The author or researcher has as customer the editor of the learned journal. The faculty collectively have as customers parents and employers of students as well as taxpayers and other financial supporters of the institution. Quality improvement calls for an explicit identification of one's customers, a careful consideration of each customer's needs and expectations, and well articulated plans to meet or exceed customer needs.

Virtually every college and university has a mission statement and a corresponding set of goals. The faculty and staff work diligently at their respective activities. But frequently missing is a clear understanding of how the individual activities are inter-related and how each contributes to the overall mission and goals. The potential value of cooperation is not readily apparent. A broad-based alignment exercise can create a vigorous dialogue that helps everyone to see *and appreciate* the essential inter-connectedness of the many different day-to-day activities. Alignment of departmental level activities with the mission and goals of the university can energize the entire community in making process improvements for all operations.

A university "quality revolution" requires active participation from top to bottom and across all disciplines. It is not a task to be delegated to a "quality vice-president" so the president can be involved in "more important things." Indeed, the institution's leaders must have ownership in managing cross-functional systems (those systems that cut across organizational boundaries). Ultimately, the primary job of the leaders is to constantly improve all systems through their own efforts and through furnishing appropriate support and resources to all units on campus. Note that this can profoundly change behavior patterns; reactive ("fix today's disaster") behavior is replaced by proactive efforts (plan and work to make operations run efficiently and thus prevent disasters). Indeed, a sign of a well managed organization is the *absence* of day-to-day emergencies.

The quest to constantly improve the institution should be part of the work of every faculty and staff member. A prerequisite to broadening the base of active and substantive participation is to have alignment between the university's mission and goals and the individual activities across the campus. Faculty and staff are the institution's most valuable resource and they must be both encouraged and empowered to seek and take advantage of improvement activities. With empowerment comes a new sense of ownership that drives people to do their best. But note well that the reward systems for faculty, staff, and students can either support or discourage improvement efforts.

Fundamental to an efficient approach to quality improvement is to view each activity as part of a larger system or process. The accent is then on understanding and improving the system. While this will entail consideration of the separate parts, it also requires attention to the *relationships* among the parts. For example, the system through which students are recruited, enrolled, advised and retained has many "parts" with responsibility shared by a number of different university offices. As experienced by the customer (the student and his/her parents), that system is frequently fragmented. Even though the parts may be separately optimized, this can lead to suboptimization and inefficiency for the system as a whole. To avoid this processes and systems should each have identified owners whose continuing responsibility is to monitor the system and to improve it (by uncovering and removing weaknesses or by even more extensive changes in the system). Since a system

may cut across traditional functional boundaries, system improvement work invariably requires cooperative efforts.

Having the desire to improve and empowering faculty and staff to act will not automatically bring success. To take advantage of opportunities for improvement, one needs a shared perspective and the ability to communicate with ones colleagues. This can be facilitated by understanding and using a common set of concepts and tools. For process understanding and improvement these include the process flow diagram, data collecting strategies, cause and effect diagrams, and control charts. One responsibility of the university leadership is to make available appropriate training and follow-up support in the use of such tools. (While many organizations actively train their staff, they fail to furnish the essential follow-up support needed when staff members begin to use their knowledge in improving systems.)

Putting all the elements of quality improvement into place will produce a culture change within the institution. There will be a shared mission and goals and an appreciation for the value of cooperation among the various units. An emphasis on systems will facilitate careful long range planning and reduce the tendency for reactive behavior. Such profound changes in how a college views and conducts its operations can initially cause great anxiety, but the long-term effects will be very positive--both for the institution and for its customers. It is not a quick fix but rather the development of steady progress toward the vision of the institution.

## APPARENT BARRIERS TO QUALITY IMPROVEMENT

Change is always threatening because it requires us to face the unknown; it stands in sharp contrast to the familiar, the status quo. Faculty and staff cite a number of reasons for not changing the way educational institutions operate. We mention here a number of such beliefs and viewpoints and offer rebuttals.

1. Higher education is not an assembly line where we add value to a raw material, the student.

2. Faculty are the authorities in their fields. Students, parents, legislators, employers, etc., don't know what needs to be taught.

3. Faculty are being asked to "baby" their students too much.

4. Academics in some disciplines are trained to work alone and to compete for grants and awards. Building a university based on cooperative activity and shared rewards cannot work.

5. Creative work is not the same as targeted product development and cannot be "managed" as can industrial production.

6. It is not possible for faculty to agree on goals and values, thus the only choice is to optimize individual activities.

7. The role of management is to furnish resources and carry out other necessary administrative and housekeeping work in support of the academic departments.

It is certainly true that higher education is not an assembly line. Nevertheless, there are many processes within the institution that would greatly benefit from a focussed effort of improvement. Students, faculty, and staff would all appreciate working and learning in an environment with a minimum of day to day hassles which detract from the learning process.

While faculty are certainly authorities in their field, we must remember that students are not passive vessels into which we "pour knowledge" Rather they should be active participants in the learning process - and this includes actively listening to their suggestions about curriculum, examinations, etc. If we believe that employers, legislators, etc., don't know what needs to be taught, then it is essential that we attempt to inform them if we expect their continued support, including financial support.

Involving students is not babying students. Rather, it is a healthy effort to help students assume greater responsibility and initiative for their own education. This can lead to a win-win situation for both faculty and students.

While research may often be an individual activity, education should not be. We must make the effort to link our courses not only for efficiency (we should not have to teach again material that was covered in a pre-requisite course) but also for increased student satisfaction; seeing the relationship among courses increases student motivation.

While creative work cannot, or at least should not, be managed like industrial production, there are many aspects that can be improved. Better research designs lead to more informative experiments; better laboratory equipment and laboratory techniques can reduce the chance of an aborted experiment; and better support systems (e.g. library, sponsored projects office) can speed up many necessary but peripheral activities. Joint cooperative efforts by campus researchers can result in fundamental improvements in the campus research environment much faster and easier than independent action.

It is frequently much easier for each of us to optimize our individual activities for colleges and universities often operate without clearly-articulated mission, goals, or vision. There has not been a common understanding of the past, nor is there now a shared vision of the future. While it will not be easy to agree on a common mission, goals, and vision, and to align our separate activities to these over-arching guides, that alignment exercise can lead to a university that will furnish greater support to individual activities. At a very pragmatic level, public and private research funding agencies are offering increasing support for projects that cut across traditional disciplinary boundaries.

The role of management is not simply to furnish resources. Rather, management should be an active participant and a leader in the educational process. Without that active participation, it is too easy for tough decisions to be made on the basis of criteria which may be somewhat removed from the primary mission of education. From a faculty viewpoint, management is also a customer of our work.

In the final analysis, we are each captives of our own world views. We are comfortable because traditional methods are deeply ingrained. It is unclear that there are other routes to improve the educational system. But the critical and disciplined skills used by academics to study and understand the world around us can also be used to examine their own institutions. Making the commitment to improve is the first step in moving toward our vision of the institution in which we work and study.

## CREATING THE ENVIRONMENT

Ideally, a university's plans and activities should be guided by its *mission*, *values*, and *vision*. If these are clearly articulated and accepted by faculty, staff and students, then everyone can align his/her activities and plans with these guideposts. Identifying and developing the mission, values and vision is an interactive process. Involving faculty and staff in that development effort is essential to ensure their eventual commitment. The

campus leadership has the responsibility to nourish the dialogue that must occur to achieve campus-wide alignment.

The *mission* of a college is a statement of its identity; that is, what would its constituencies miss if it did not exist? The goals of a college specify general targets related to fulfilling the mission. While mission and goals furnish a steady target, they should not be carved in stone. For many institutions, the mission consists of teaching, research, and service. No college can be all things to all people; each must select particular goals within these three areas.

New social and economic conditions may require a change in strategic plans developed to achieve the goals. With multiple options available, an institution can benefit by having in place a process by which to carefully evaluate and choose among the alternatives. Today's student bodies include an older segment of the population than in the past. Industrial organizations are expressing interest in using two-year colleges to organize and staff technical training programs for their employees. Satellite communications are making it possible to have classes televised anywhere in the country. All of these represent opportunities to the institution that is able to take advantage of them.

The *values* of an institution are those pervasive tenets shared by the community that shape behaviors beyond specified rules. The integrity of the educational process rests more firmly on behavior standards understood and accepted by students and faculty than upon (extensive) sets of rules. Values are reflected in how the campus promotes and defends academic freedom. A college with a well articulated set of values will have greater success in aligning its activities with its mission.

The *vision* of an institution is that mental picture of how the university could function in the future. A clear vision can guide the community in the development of its mission and goals. A land grant university may take as its vision the creation of a system that gives everyone in the state the opportunity *and the desire* to develop their individual talents to the fullest. Vision can take us beyond our immediate concerns and tasks and enable us to have the courage to change. This is helpful for quality improvement activities since change is always anxiety-producing for those involved.

## THE ROLE OF THE LEADERS

Having noted the importance of the institution's having a well-articulated mission, values, and vision, the president and other leaders must ensure that these are actually used to set planning and budgeting priorities and to guide daily management activities. These leaders must help the institution create the campus quality improvement plan, structure, and organization. Recognizing that what gets rewarded is what gets done, they must ensure that the recognition and reward structure is aligned with the community's mission and goals and thus encourages rather than discourages improvement behavior. In other words, one of their primary responsibilities is to maintain a campus environment that reinforces quality improvement.

Besides facilitating and recognizing the efforts of others, the president and other institutional leaders must themselves be involved in system improvement activities. They must take ownership for those systems that cut across the organization's functional boundaries. Examples are the systems for long-range planning, recruiting and nurturing faculty members, and building a strong base of supporters and donors. Activities such as these require input and resources from a large and diverse number of sources. The top leaders are best positioned to take responsibility for improving such cross-functional systems. In a later section we discuss the centrality of systems and processes in quality improvement work.

Assuming ownership and responsibility for improving a system is not easy for top managers in any organization. They are more accustomed to managing by delegating work to others. But the academic community will take its cues from the campus leadership in becoming deeply involved in quality improvement. If the president and other leaders are not "walking the talk" the effort will not flourish. This means that the leaders themselves will have to be knowledgeable and comfortable with the new philosophy as well as with the tools and techniques used in quality improvement. Such new knowledge does not always come easy; it requires study and practice. Indeed, they can start by learning from actual experience in process improvement activities.

## COLLEGES HAVE CUSTOMERS

No principle is more fundamental to quality improvement than customer orientation. That is, the beneficiaries of our work have a significant role to play in judging its quality. For example, the professor of a college course may have many customers - students, professors in follow-on courses, and employers. It is not common for academics to speak in terms of customers - and certainly not students as customers! If asked to name our customers, we might list the department chair, the dean, and the editor of the journal in which we publish. While these persons are also customers, that does not release us from our obligations to students, employers, and taxpayers. We shall use the generic term "customers" to refer to those persons, groups, organizations that derive benefit from what we do.

In what sense do we consider students and employers as customers? Academics have been blessed with a special trust and responsibility within society - to transmit the wisdom of the ages, to challenge the dogmas of today, and to create and disseminate new ideas. The privileges, such as academic freedom, that we enjoy are bestowed not because of intrinsic merit, but rather because they support the responsibilities that educational institutions have to society. Indeed academic freedom exists to support the obligation of increasing knowledge for the betterment of society. Thus the privileges and freedoms that faculty enjoy obligate them to society, collectively their customers.

A large diverse organization such as an educational institution will have many different customers. Undergraduate students, graduate students, those in professional programs, and continuing education students all have different needs and expectations. Some alumni want the best football team; others urge an emphasis on service to business; and still others want the institution to build its academic prestige. Customers of the undergraduate program are employers, professional schools, and graduate degree programs - and each of these has different needs. Contributors, accrediting agencies, and business and professional societies are other very important customers. It will take considerable effort, careful study, and patience to balance competing needs and desires among these customers.

There are also internal customers. As noted above, a professor's customers include students as well as teachers in follow-on courses. Departments are customers of the campus mail service, the computing center, and the custodial services. Both students and academic departments are customers of the registrar's office. Departments and the central financial office are customers of each other in the sense that the financial office furnishes information and the department strives to keep spending within limits.

Note that almost every person and organizational subunit plays multiple roles. A professor is the beneficiary of the teacher of a preceding course and also has an obligation to teachers of follow-on courses. The course enrollment office is a customer of each academic department but also serves those departments by furnishing timely and accurate data. This interlocking set of mutual obligations is an important element of a coordinated institution wide quality improvement effort.

Some argue that students are analogous to raw material taken into a manufacturing process. Experience with students aptly demonstrates that students are (or should be) active participants in their higher education. While the analogy of "student-as-customer" is not perfect, we prefer it to the raw material viewpoint. We believe that the discussion is better served by considering students as actively involved in the educational process.

## THE CENTRALITY OF PROCESSES AND SYSTEMS

Central to studying and improving institutional activities are the notions of processes and systems. By "process" we mean a set of closely-related steps and activities. We use the term "system" to mean a collection of processes designed to reach some overall objective. We will make no sharp dividing line at the interface of systems and processes.

Some examples of processes are:

- Planning a course syllabus
- Admitting a student to a graduate degree program
- Distributing payroll and travel checks
- Handling campus mail
- Acquiring and cataloging a library book
- Managing a summer conference

Some examples of systems are:

- Long-range planning
- Faculty recruitment and development
- Community relations development
- Building and maintaining campus spirit

As suggested by the above examples, systems can be large and cut across existing functional groups. The president and other higher level administrators carry the responsibility of managing and improving systems institution-wide. Deans manage school-based systems, while department chairs and directors manage smaller systems or processes. But an organizational chart depicting the assignment of authority may only partially reflect the dynamic interaction of processes and how an institution actually works. For this reason it is critical that all subsystems are aligned with higher level systems which in turn are explicitly tied to the commonly held mission of the institution.

Quality improvement has several agendas with respect to systems and processes. Leaders must have responsibility for leading the entire campus to

1. Align all activities with the institutional mission.

2. Reduce the variation in systems and processes.

3. Increase the value of each service to customers.

The techniques of quality improvement are designed to facilitate the attainment of these three goals.

If quality improvement is to occur, all participants must have a very clear idea of the process or system under study and how it relates to other processes and systems within the institution. For example, work on the advising system will require knowledge of related activities such as the student computer information system, the career planning and placement office, and the curriculum requirements system. Suddenly a new level of knowledge is required of all faculty and staff, both in detail and in breadth.

Systems in service organizations such as universities are inherently difficult to work on because they are not highly visible. While one can find and study the individual activities, the *relationships* between these activities are equally (if not more) important. An invaluable tool for studying systems is the flow diagram, which diagrammatically depicts the activities and their inter-relationship that comprise the system.

Figure 1 shows a flow diagram that represents the student judicial process at Samford University. Several aspects are immediately obvious:

- There are many steps in the process, making the process lengthy in time and increasing the chance for mistakes.

- Many different parties are involved. This complicates scheduling of meetings as well as transferring information, It may also compromise confidentiality.

- Keeping everyone informed requires more forms and memos. Paperwork is time-consuming and may be subject to misunderstanding.

Creating a process flow diagram is valuable for it forces us to learn more about the process. While one would not construct a building or an assembly line without a detailed blueprint, it is not unusual to find college personnel attempting to create and manage service operations without the benefit of such detailed and explicit information. The very act of creating a flow diagram often brings to light the fact that the participants do not have a complete and clear understanding of the process under study.

A number of specific benefits can result from creating and using a flow diagram. The diagram

- emphasizes the systemic and inter-related nature of activities,

- encourages everyone to participate in contributing information,

- communicates a common understanding of the entire process or system,

- helps identify waste and unnecessarily complicated steps in a process, and

- helps determine appropriate points at which to collect data in order to better understand the process or system.

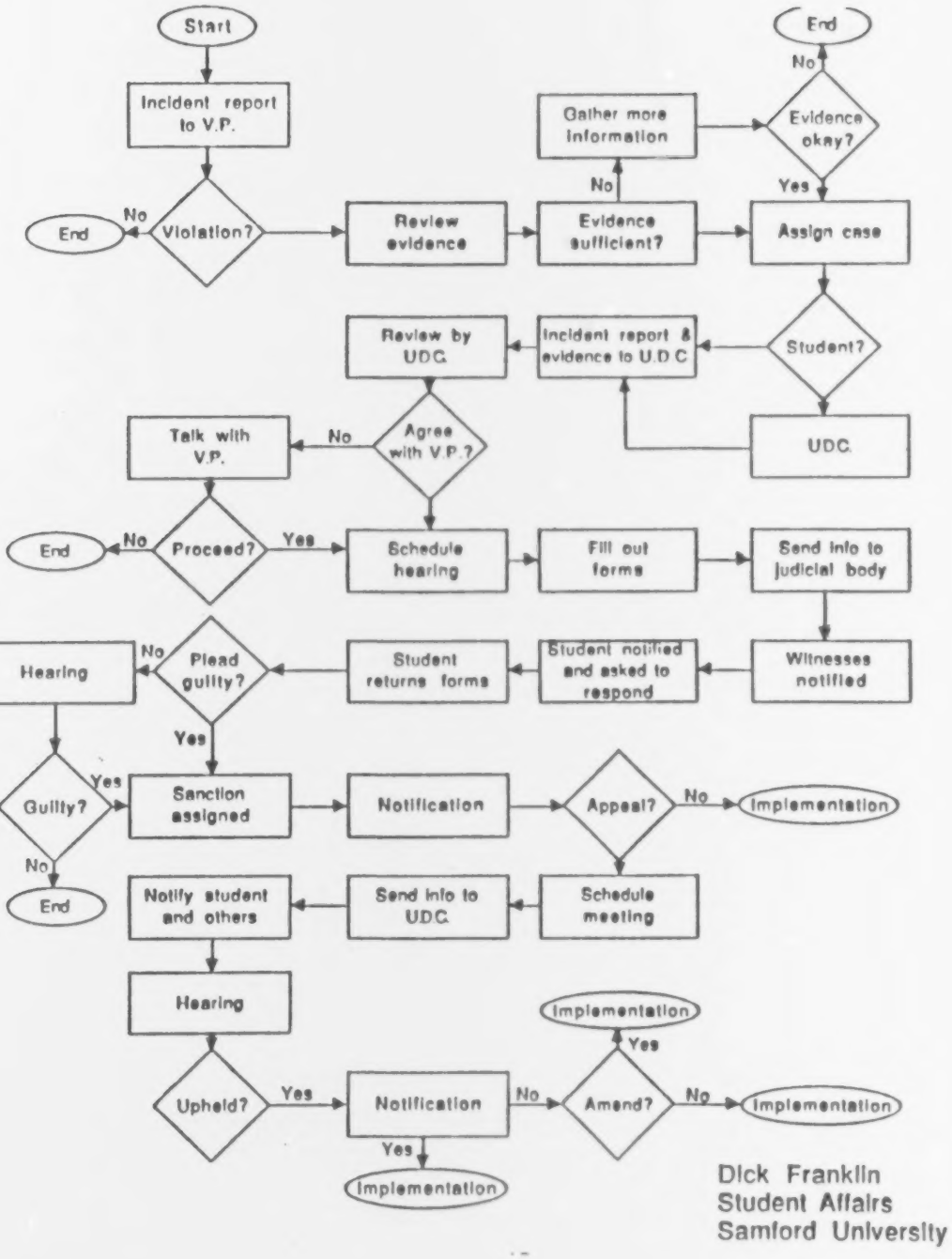


Figure 1. Flow Diagram of Student Judicial Process

Every process and system needs to have an identified owner. The owner is responsible for ensuring that

- the strengths and weaknesses of the process or system are continuously assessed,
- improvement plans are made and executed,
- results of changes are checked, and
- changes shown to be effective are implemented.

Being the owner of a system does not exclude others from being deeply involved in these listed activities. Indeed, recognizing the inter-connectedness of activities means that assessment and improvement require cooperation among many persons, persons working *within* the particular system as well as persons working on this and other systems.

For some processes, such as student registration and university computing, the owner is clearly defined. But for others, such as the system of recruiting and nurturing faculty members and the system of advising students, the ownership is less centralized. Systems without identified owners tend to become somewhat fragmented. While the individual components may be optimized, insufficient attention is paid to optimizing the overall system.

## VARIATION IN PROCESS BEHAVIOR

We discussed above the centrality of systems and processes for quality improvement. If each of the activities which constitute a process occurred without error and on schedule, then the process would be predictable and perhaps acceptable. People could take advantage of the predictability to make plans. However, experience shows that in almost every process exceptions and errors do occur and that the time taken to complete different steps is variable. Because of this unpredictability, persons build in safeguards. While this may be prudent in the short run, it places an emphasis on building around problems rather than addressing them head on.

Variation in the behavior of processes leads to inefficiencies. As a simple example, consider your own actions in taking an airplane trip to get to a conference in a distant city. At each step of the way (travel to the airport, baggage check-in, airplane arrival time, baggage pick-up, travel to hotel, hotel check-in) you build in extra time in case there are delays. If these minutes are actually needed and thus used, you have not gained anything; you have simply avoided a loss. If these minutes are not needed and thus not used, they add no real value to the trip.

If one is to concentrate on improving the system as contrasted to simply responding to individual events, then one must study system *patterns*. This can be facilitated by using statistical concepts and tools. Armed with an accurate flow diagram, some experience with the process, and much careful thought, one can often identify appropriate points in the process at which to collect data. With some understanding of the influences that affect the various activities, one may be able to specify appropriate sampling frequencies. For example, in the student judicial process shown above, one might choose to study the completeness and accuracy of the data that are transmitted down the line. This might be done by comparing the records for a case at several points in the process. To get a full picture one might choose ten cases of each of several types: first offenders, minor

problems, major problems. The "types" chosen are dependent on the investigator's knowledge of characteristics that might influence the completeness and accuracy of a record.

To obtain a deeper understanding, the process data could be organized in any one of several ways. Depending on the type of data, one could use histograms, Pareto charts, or scatter diagrams. If data have been collected over a period of time, then plotting summary values at each point in time can give an indication of patterns over time. A goal in such statistical analysis is to see not only the average response but also the variation. The observed variation around the average is a measure of the variation in the system. As discussed above, reducing the variation can make the system run more smoothly and predictably, increasing the satisfaction of the customer as well as the persons working in the system.

Conventional wisdom says that variation around the average is due to avoidable mistakes that people make. Some believe that these "special causes" would disappear if employees did their jobs correctly. In fact, this is usually incorrect; most of the variation is an inherent part of the system and is accordingly called "common cause" or "system" variation. Employees work *in* a system. While they may have valuable insight into the causes and consequences of variation, they often do not have control of the resources to eliminate or reduce system variation. It is the responsibility of the system owner, who works *on* the system, to make changes to reduce variation. Simply asking employees to work harder will not suffice and indeed will engender frustration and unhappiness among employees.

Figure 2 is an example of a statistical chart to help distinguish between "special causes" and "common causes". This is called a control chart and was introduced in the 1920's by Walter Shewhart to help monitor and improve production processes at Western Electric Co. The figure shows the mean scores for the College Outcomes Measures Program test taken by graduating seniors at a major university starting in November, 1985. The solid center horizontal line represents the mean score for the entire series. The jagged dotted lines are called control limits and reflect the limits of variation that can be accounted for by common causes alone. That is, plotted points that lie between the two control limits may very well differ only by random variation while points outside the limits represent the presence of special causes or different systems operating. One purpose of control charts is to help decision makers avoid over-reacting to changes which may be due simply to random variation while helping them identify significant changes. Besides the control limits, there are statistical tests for trends and other patterns that are applied to the points on the chart to help discriminate between system patterns and special causes.

A variety of statistical tools have proven useful for process study and improvement. They not only help one to see patterns in data collected from processes, but they also improve communication among participants. Institutional leaders must furnish resources for instruction in their use as well as furnish coaching during actual use by staff members.

## THE CONSEQUENCES OF VARIATION

We gave above an example of steps one might take to protect against the costs of variation when traveling. Universities abound with examples of variation with attendant consequences. It may be instructive to reflect on how each of these problems came to be, why they persist, and who should have responsibility for addressing them. In some cases variation may be inevitable so that one possible remedy is to develop a system that can efficiently respond to such variation.

In the academy, it is common to ask for reports long before they are needed since the requester believes (from previous experience?) that the provider may very well be late in meeting the deadline. This only

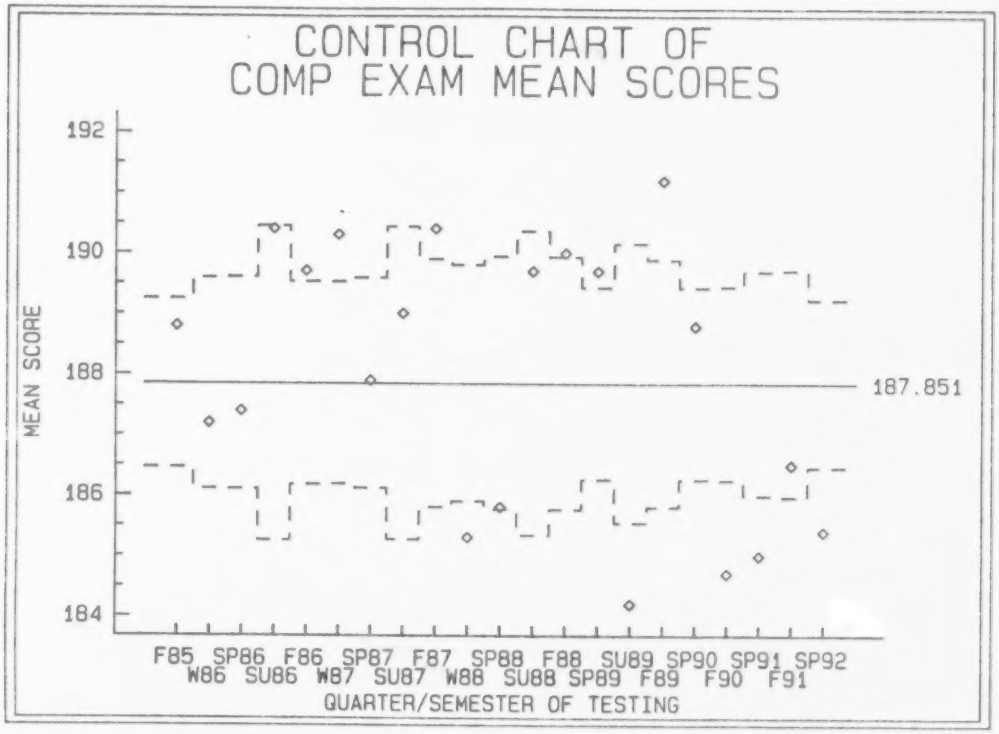


Figure 2. Example of a control chart: Mean scores on COMP examination

encourages the habit of ignoring deadlines, which in turn leads to a need for second and third requests for the report. Furnishing the report itself is the only productive activity; the rest is unproductive, annoying to the tardy person, and hardly pleasant to the person assigned to collect the missing reports. Variation in delivery time of reports is annoying to all persons affected and creates a follow-up system that takes effort but adds no real value to the final product.

Campus mail service is sometimes unpredictable. Knowing that 95 percent of the mail is delivered in 24 hours is of little help if your letter *must* be delivered in that time. You will typically take the time to deliver it in person or may even send it by fax. Your custom delivery service is necessitated by the variation in mail delivery time. Does the campus mail center have a specification on service time? Do they know if they meet it? Have they ever considered the costs to their customers of not doing so?

In the course of a year, five different administrative offices may ask for the same information (such as a list of recent publications) from an academic department. However, each requestor requires a different format and perhaps slightly different detail, necessitating time-consuming repetitive work by department secretaries. The requesting offices have little incentive for coordinating their requests since they are not doing the work. But variation in the details of their requests causes additional work for others. This situation is not productive for the university and engenders negative feelings in the hard-working secretarial staff.



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Computing capacity is designed to meet peak periods - an expensive proposition. How can the college computing center entice users to spread their demands across the day and thus make fuller utilization of the equipment as well as improve response time at any one time of day? Who is responsible for addressing trade-off issues between the cost of additional equipment versus the cost (and inconvenience) of night-time computing center services?

Variation in some cases is inevitable. Students have different intellectual abilities. In recognition of that, professors have office hours and help sessions before an exam. Some courses, like calculus, may be presented in several different versions, including honors sections, in order to be responsive to the variation. This is laudable and perhaps should be expanded. But in contrast to that response to variation, consider a course in which each week builds on the material from preceding weeks. A student who does C level work in the first five weeks may have an inadequate base to do any better than D level work the second five weeks, leading to F level work in the last five weeks. To stay with the announced syllabus, the professor plows steadily ahead at an appropriate pace for many of the students - but dooming those who learn more slowly to a steady downward spiral. Is it time for faculty to consider alternative responses to variation in learning speed?

There will always be differences in class enrollments. In the short run, there should be in place a system to reallocate classrooms at the beginning of a semester according to enrollment sizes . But as part of *long range planning*, one needs to predict classroom seating needs and build accordingly. While many colleges claim to require that classes be scheduled evenly from 8:00 a.m. to 5:00 p.m., a walk through the halls at 8:30 or 4:30 suggests that there is no enforcement. Lack of careful planning for optimal classroom utilization is expensive. Allowing it to continue points out that the institution's leaders have missed an opportunity to work on system improvement.

We accept great variation in what students bring to a course from pre-requisite classes. The student who took the pre-requisite course four years earlier and received a C may sincerely believe that admission requirements to the present class have been met. Students, our customers, are short-changing themselves when they come into a course unprepared to begin with new material. It is perhaps too easy to blame the individual students. Instead, one should inquire why a professor may pay much attention to his/her own course content but allow the important ties between courses to languish. Have academics become so accustomed to this problem that it has been accepted as unchangeable?

Improvement of processes includes paying a great deal of attention to the amount of variation and its sources. If variation can be reduced, then the system will operate more efficiently and more satisfactorily for all involved. If it cannot by reduced, then the system must be modified to run efficiently even in the face of variation. Instituting early registration for classes is an example of creating a system that allows time for efficient planning. (Systematically collecting course enrollment intentions from the advising sessions may furnish even greater lead times for making adjustments.) Holding some teaching funds centrally in order to respond to unanticipated enrollment requests is an example of a responsive system.

## THE PDSA CYCLE OF CONTINUOUS IMPROVEMENT

A very useful road map to continuous improvement is provided by the Plan-Do-Study-Act (PDSA) Cycle, introduced by Walter Shewhart in the 1920's and popularized by W. Edwards Deming in the 1980's. Figure 3 below presents the PDSA cycle along with some supporting activities. The circular nature of the diagram emphasizes the need for continuous improvement of processes - when one cycle is completed, another begins.

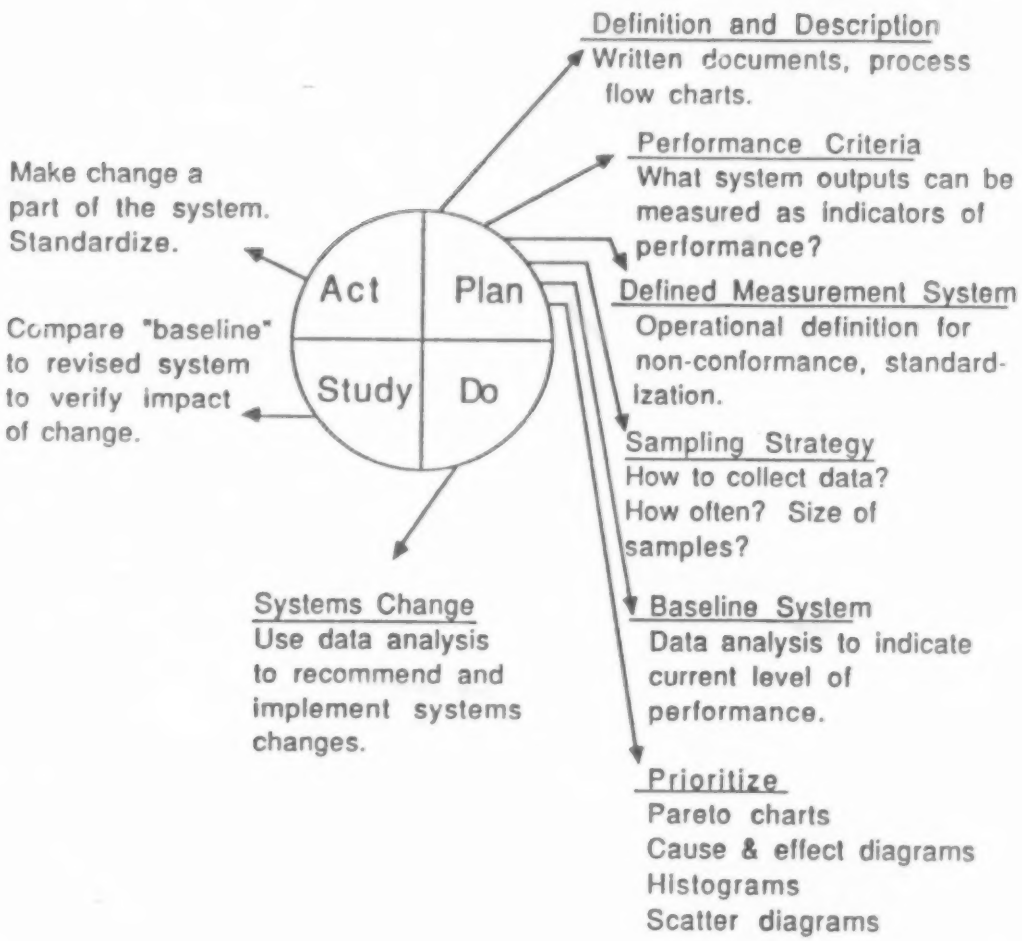


Figure 3. The PDSA Cycle of Continuous Improvement.

**Planning Phase:** A great deal of value is realized by making careful plans prior to taking action (avoid the pattern of Ready-Fire-Aim!). The planning includes construction of an accurate flow diagram of the actual (not the idealized) process or system under study. One must select performance criteria to be used to assess the current status of the system and ways to measure that criteria. Surveys may be needed to learn about customer needs and the extent to which these needs are being met. The goal is to ascertain the present status of the system leading to suggestions for changes. A number of simple but useful statistical tools may be employed at this stage; they are shown in figure 3. There are also a number of managerial methods that have proven useful for improving a system or process. See the list of references for information about these tools.

**Doing Phase:** Use the findings from the Planning Phase to recommend and try out system changes. The changes may initially be made in a pilot program. In this phase there should be a well-thought-out and tested plan for evaluating the costs and benefits of the system changes. This requires careful attention to study design so that one can later relate cause and effect. For example, in evaluating a new program for helping first-year students who are at academic risk, one needs to track not only those students in the experimental program, but also students who have not been exposed to that program. Without comparison groups, one cannot determine if successes are due to the program activities or to some other cause.

**Studying Phase:** While it is only human nature to want to succeed, one should conduct an honest evaluation of the effects of the system change. Beware the Hawthorne Effect: the very act of being studied often causes persons to improve their performance - but the improvement is not sustained. The tools used in the planning phase are useful again here. In particular, one should compare the before and after status of the system. Control charts are particularly useful in determining if the process has changed with respect to average value, the amount of common cause variation, and perhaps the presence of special causes.

A careful evaluation may uncover new ideas and opportunities for future action. The number of new ideas increases with the number of persons interested in the improvement effort who are comfortable in using and interpreting charts and other statistical tools. This is a reason for having wide-spread knowledge and involvement in quality improvement. Widespread involvement also helps to energize the participants and can lead to substantial (and delightful) increases in job satisfaction.

**Acting Phase:** If the changes implemented in the Doing Phase are judged to be improvements, they should become part of everyday operations. In many cases, this may be straightforward to do (especially if the change consists of ceasing to do something). Changes that run counter to habit or "my favorite way to do this" may take concerted effort to replace with new behaviors. Persons who have not been a part of the earlier plan, do and study phases may be resistant to doing things in a different way. Painful experience shows that institutionalizing change is often much more difficult than simply deciding to do it. In general, the organization's leaders must build an atmosphere in which change (based on careful and thorough study) is expected to be a part of everyday operations.

## BEGINNING A QUALITY IMPROVEMENT EFFORT

Central to the effort of quality improvement is continuous work on systems and processes. The largest gains are often found through optimizing those "cross-functional" systems that cut across existing organizational boundaries. At best, these systems are optimized only locally, and this may lead to institution-wide sub-optimization. For example, colleges within a university may specify requirements for majors that do not facilitate students transferring from another college. The top leaders taking ownership of cross-functional systems will send a very strong message to the rest of the community. The message is that everyone must participate and that all processes and activities must be aligned with the higher level systems and with the institution's mission.

We have discussed earlier the importance of clearly articulated statements of mission, goals, values, and vision. The president and other campus leaders must actively participate in this critical identification and alignment effort if they are to become effective owners of the cross-functional systems. But it is equally important for the entire college community to be actively involved in the discussion of mission, customers and alignment of activities. By using a broad based consensual approach, one increases the chance of wide-spread commitment when it comes time for action.

At a very practical level, much can be learned from visits to businesses that have successful quality improvement efforts underway. College alumni may be pleased to make presentations and give tours to show off their company's efforts. Since no one company will have all the answers, one should plan to visit several (both manufacturing and service). Many organizations find it productive to "benchmark" processes; that is, to identify and study that organization which is recognized as being the very best in some particular activity. (Besides seeing successes, visitors to other organizations will discover that there are also difficulties and frustrations in trying to change the institution's culture to one of continuous improvement.)

The president and other administrative leaders can constitute a steering committee to ensure that continuous quality improvement becomes *and remains* a way of campus life. Steering committee members must also understand the nuts and bolts of quality improvement. This includes an understanding of how variability affects processes as well as tools to identify the sources of variability.

Concepts and tools used daily in quality improvement work are needed by everyone in the organization. This will require instruction by a teacher experienced in quality improvement work. Possible sources for qualified teachers are universities and businesses already well along in their own quality improvement efforts. Alternatively, an institution may develop its own teachers by starting a number of pilot projects as learning and awareness-raising efforts. Many people express fear of having to learn statistics (perhaps based on a bad previous experience). But there is ample evidence to suggest that everyone can learn to use the simple tools needed.

Training without application is ineffective. Immediate application of training topics is essential for building confidence and changing attitudes and behavior. Processes should be identified and flow diagrams constructed. For each process the identified owner and other persons with an interest in the process should reach consensus on key issues such as:

- Who are the customers of this process?
- How can we identify the customers' needs and expectations?
- How can we find out if the process is meeting those needs and expectations?
- Where should we take measurements to learn the status of the process?
- If the process measurements show that special causes of variation are present, how can these be eliminated?
- If the process measurements show that only system variation is present, are we satisfied with the process average and variation? If not, what actions might be taken to make changes?
- Create a flow diagram for the "ideal" process. How does this differ from the existing process and how might it be implemented?

Working on the process investigation activities listed above will bring to life the methods of quality improvement. It will quickly become clear that systems are highly inter-connected. To get all the information needed for decision-making, teams will need to obtain information from other sources. This is typical; the investigation of systems requires input from a large number of different people. Asking for input from others is a first step in developing a broad base of interest in improving processes.

## THE CRITICAL MIDDLE MANAGEMENT GROUP

While the president and other institutional leaders set the tone for campus-wide quality improvement, it is under the direction of middle management that much of the work actually takes place. Deans, department heads, and business unit directors are responsible for processes that have a direct impact on the majority of the university's customers. They help to translate the general tone into expectations of behavior. It is they who must lead in finding alignment of their own processes with the larger cross-functional systems. Finally, it is they who control the resources needed to support teams of faculty and staff working on improvement projects. As is often found in business and industry, middle management can make or break a quality improvement effort.

A middle management committed to the institution's quality improvement plans can greatly increase the chances for success. Ideally, these persons will already be well acquainted with the college mission, values and vision since they helped to create them in the first place. Orientation should be provided by the president and other leaders to emphasize that this initiative is fostered by the top of the organization. Middle management, like the leaders, will also need substantive knowledge about concepts and tools used in quality improvement. This knowledge and understanding can be gained by a combination of tours to businesses that have quality improvement efforts in place, formal instruction, and assistance as they work on their own quality improvement activities. As in foreign language training, use it or lose it.

What will middle management be expected to do? First, they must be knowledgeable about the institution's strategic plans and how these affect their own unit. They will lead their staff in studying and improving the processes in their areas of responsibility. For deans, it could be budget planning; for academic department heads, it might be curriculum planning; and for business unit heads, it would be dictated by their unit's activities, e.g., computing, student registration, financial aid. In each case, they will work with their staff to identify the customers, their needs and expectations, whether these are being met, and how to improve the system for which they hold ownership. Evaluation of their work is based not only on how good their unit is, but also on how much *improvement* has taken place and on *future improvement plans*.

There is no single route to getting started. Some organizations have initially spent considerable time and effort to make all employees aware of the decision to give quality improvement a high priority. Awareness programs can help to reduce fear generated by rumors as well as to give interested persons the opportunity to step forward. Because of the large number of persons to be involved, it will probably be necessary to begin training only some of them - perhaps only in two or three suborganizations of the university. Examples might be the College of Engineering and the Office of Finance. By picking only a few suborganizations, focussed training can be furnished to some staff members below the middle management level so that a critical mass of people is participating. After the targeted groups have been trained and have quality improvement activities underway, other groups can be selected for training and project work.

A very difficult period for an organization moving toward a culture of continuous quality improvement is that awkward time when a substantial number of the employees are operating under the new model even while another substantial number have not yet been converted. Some have termed this the "crazy times". At these critical times, the president and other influential campus leaders must give highly visible support for the effort underway and recognition for the improvements. This means that they take the time to attend presentations by project teams. (Since the president's team members are themselves experienced in improvement activities, they will be able to make informed remarks and ask questions.) It is also appropriate for the president and other leaders to present awards to groups for exemplary work. Such visible recognition is critical since the groups not yet trained will be watching closely for signs of top level support (Again, what gets rewarded will be done.). The first groups can offer success stories to encourage new groups and frequently can offer direct assistance to the neophytes.

Failure to get the quality improvement effort to take root can often be traced to the absence of support and follow-up services. The institution must be prepared from the beginning to budget for project coaching and facilitating. It is not sufficient to have an outside trainer, regardless of how skilled, present a course and then leave the participants to apply what has been taught. It is necessary to have experienced and knowledgeable coaching available on an on-call basis. The problem here is not unlike that seen when a college furnishes its staff with computing equipment but does not make experienced staff available for immediate assistance when requested. The frustration of not getting help when needed engenders a great deal of hard feeling toward the seemingly short-sighted administrator who furnished the equipment in the first place. It also fuels attitudes of cynicism that will make it doubly difficult to start improvement activities in the future.

## WIDE INVOLVEMENT

Eventually, everyone in the institution must participate in the campus-wide culture of continuous improvement. Staff members must receive training appropriate to their sphere of activity. Training should go hand in hand with starting on projects. Using top and middle management for staff orientation keeps management in closer touch with the concerns and problems of the entire organization and sends a direct signal of their interest in continuous improvement at all levels. The emphasis will change from merely managing activities to that of continuously improving systems and processes.

Employees will be empowered as their knowledge of their own work processes increases. To achieve this they need to understand their inputs as well as what the customers expect. By gaining thorough understanding of their processes, they can identify and eliminate (or neutralize) major sources of variation.

The university's reward system will help to drive quality improvement if it is consonant with the philosophy of customer service and continuous improvement. It is hard to convince ambitious, hard-working faculty to expend energy on course improvements when publications are the primary determinants of salary increases. While it is easy to count memberships on committees, it is harder (but surely more relevant) to assess the *effectiveness* of the committees. Aligning the university's reward system with the mission and goals is easily said but extremely hard to accomplish. While the president can be a leader in this effort, it will require broad participation, and much patience, to achieve success in changing the reward system.

## HOLDING ON TO THE GAINS

It is widely recognized by organizations that have begun the process of quality improvement as described here that the job is very difficult. To move from involvement with activities to an accent on continuous study and improvement of processes and systems is a major culture change. The institution, especially the leadership, will need to recognize that it is not simply a new program that is being put into place, but rather an entirely new way to view and conduct business. The quality improvement effort must become part of the *value system* of the institution.

An institution's greatest resource is its people. This resource should be constantly developed and renewed through education and training. Not only will people be able to do their jobs better, but morale will improve and they will *want* to do their jobs better. They must also be given the freedom and opportunity to do their jobs. This means empowering people to act on their own initiative. This is a basic principle of total quality management.

Many reasons might be cited for changing what we do. One is to survive. Another is to save money. And a third is simply the desire for excellence in all that we do. Taking actions to survive or just to save money may work in the short run, but will not support the changes needed for continued institutional health. We believe that a campus-wide commitment to continuous improvement of systems and processes can realize great benefits: increased excellence, reduced costs, and consequently a brighter future for the institution, its faculty and staff, and all of its customers. When progress along this road has been achieved, the community will find a new spirit on campus - one of constant delight in the educational process. We know that is a goal worth working for.

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# APPENDIX C

## TQM PILOT PROJECTS ON CAMPUSES

**TQM Pilot Projects on Campuses**

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In Spring 1992, Career Services undertook study of the problem of filling their recruiters' schedules. Meeting weekly, the planning team has identified its customers and ways of improving service and has begun implementation of some of these ideas.

Another project initiated by Career Services is improving the completeness and accuracy of computer-generated student resumés. Implementation and evaluation of instituted changes occurred in Fall 1992.

The Campus Mail Service is in the discussion stage of a project to define its mission and goals, analyze its customers and potential customers, and develop projects to better serve their needs. This project team is also considering ways to expand its efforts and the products it offers.

For over two years, a group of administrators has met monthly under the leadership of David Sylwester, head of the Department of Statistics, to discuss the principles of total quality management and how those principles apply to the University. This group of administrators includes the UT System Senior Vice President, two academic deans and two department heads, the directors of several campus services, and the Dean of Students. The study group has applied several of the TQM techniques (flow diagrams, cause-and-effect diagrams, operational definitions, etc.) to processes in their own offices.

David Sylwester, one of the authors of the research report Quality Improvement in Higher Education: An Overview, has participated in a number of workshops on TQM at consortium institutions, given numerous presentations on the statistical tools needed for TQM in universities, and provided support to other universities in their TQM efforts (i.e., reviewed the course notes for Samford's revised beginning mathematics class, developed using TQM principles).

The UTK Office of Management Services has applied TQM principles to two projects. The first is the effective use of space and resources when events are planned by Food Services. The Physical Plant, seeing itself as the supplier, has sought to provide better coordination and service to Food Services, the customer. Personnel from each group meet bi-weekly to improve communication of needs and plans and to work conjointly on common problems such as scheduling and effective use of existing resources. The meetings are facilitated by an analyst from Management Services using TQM principles and techniques.

A second project undertaken by Management Services is the evaluation and reorganization of office policies and processes pertaining to development activities for Women's Athletics. The goal of this project is to improve the efficiency of the processes used for development activities.

The Center for Assessment Research and Development (CARD) instituted four projects using TQM techniques. Review of operations at CARD revealed a need for improved record-keeping related to Center contacts. After creative brainstorming, a database file was established to organize and retain the names of all individuals and institutions who contacted the Center to request information.

With the success of the request-for-information database, a second database was designed to record all contacts made with CARD by all of its different customers, from students coming to take their COMP exams to other institutions requesting copies of research reports or conference papers.

A third project undertaken by CARD staff was the improvement of mailing procedures at the center. Through feedback from customers, it was determined that an unacceptable number of errors was occurring in mailouts from CARD--enclosures which were not included, enclosures which did not belong, form letters which were inappropriately used for differing institutions, etc. In response to this need, a form was developed and a procedure devised to insure that all mailings had the

appropriate enclosures, all letters were properly addressed, and each mailing was double-checked.

The fourth project initiated at CARD was the assessment and revision of procedures for responding to inquiries and submissions for the periodical Assessment Update. After a review that included flow-charting, a procedure was instituted to improve the response time to inquiries and authors of submissions. The procedure also developed a checklist which provided a more thorough checking mechanism for assurance that the correct kinds of responses were sent to customers.

Samford University

The greatest impact in terms of implementation of TQM principles and initiatives has occurred at Samford University. With the president's full endorsement and active participation, Samford is instituting a university-wide continuous quality improvement program for both administrative and academic areas. The following are examples of the numerous projects under way or being planned at Samford.

As a part of a Students-First Quality Quest program, a suggestion system open to students, faculty and staff was instituted. This suggestion system, entitled OTIS (Opportunity to Improve Samford), functions with an Assistant to the President serving as Ombudsman. A second opportunity, more focused on complaints (SO-AS--Sound Off About Samford), has been added. To date, 286 OTIS or SO-AS forms have been received, and 278 responded to by relevant administrators. The issues suggested in six cases were so broad that cross-functional teams were established to deal with them.

A cross-functional Energy Conservation Team was established in response to concerns regarding the waste of electricity due to lights being left on in facilities around campus. Through cooperation of several organizations, light usage in facilities was investigated, and the purpose stated that Samford sought "to reduce energy cost while maintaining or improving quality of service to our customers through a process of continuous improvement." Using TQM techniques and principles, it was determined that with the installation of motion detectors, rooms would still be available for use and inviting to those needing them, yet lights would be extinguished automatically when rooms were not in use. The total savings of the program is determined to exceed 1.5 million dollars by 1997-98; in addition, the Energy Conservation Team projected the total air pollutants eliminated annually after all lighting on campus was equipped with retrofits to be 2066.2 tons.

In the academic arena, a project was established to apply total quality improvement to a basic science course. This course was offered by one department as a service to other departments whose majors needed the requirements and skills of that program and course. Through surveys it was determined that the service course offered was not meeting all the needs of nursing majors. A team was established of representatives of the customers (the Dean of the School of Nursing, the chairs of the nursing school's Curriculum Committee and Admissions Committee) and the providers (the professor who taught the course and the chair of the science department). Using TQM techniques of fish-bone cause and effect analysis and Pareto analysis of data collected, factors were identified that influenced the effectiveness of the service course, and a redesign of the process flow, the placement and function of the service course, was established. Scatter plots for the following several years have showed consistent progress in general scoring patterns of the nursing students in the science course.

Austin Peay State University

Two pilot projects at Austin Peay represent well the work in TQM that is being instituted there. A problem was noted by several department heads that adjunct and overload faculty were not getting paid on time. The Office of Assessment also noted that departments were having difficulty getting their census data together by the 14th of the month, as required by the Tennessee Higher Education Commission. To address these deficiencies, a team was assembled, composed of several deans and administrators of participating or affected units, and the Executive Assistant to the

President. This team, using the TQM techniques of flow charts and problem solving, reviewed the procedures for these two issues; in addition, the team also looked at these procedures at similar institutions. From this evaluation process, a new form was developed which sought to address those areas in the procedures where problems occurred. New policies were written and a new handbook was compiled and distributed. Finally, training was instituted for department chairs and secretaries to facilitate their use of the new procedures.

A second pilot project dealt with students' dissatisfaction with the services of the Financial Aid Office. Having observed that student satisfaction with several facets of financial aid, measured by the Student Satisfaction Survey administered each year, had steadily declined for several years, the staff of the Financial Aid Office collected data on the number of contacts, the number of federal requirements both students and the office were expected to meet, and the amount of financial aid administered. Results indicated that while student contact, phone contacts and federal regulations had all increased significantly, and while the office had increased financial aid by approximately seven million dollars from the previous few years, there had been no increase in number of office personnel or any review procedures. The result was for Financial Aid personnel to make several requests. The Vice President of Student Services was asked to reorganize the office to allow for fewer interruptions between those answering phones and those assisting students; it was also recommended that the mailing procedures be shortened and clarified to promote better understanding and response time for students and their parents; and it was recommended that a stamp be bought and used on all mailouts to indicate that dated material was enclosed.

The Vice President of Student Services, after receiving the recommendations and reviewing the supporting documentation, not only approved all recommendations, but also increased the number of staff in the Financial Aid Office.

A result of the success of these two pilot projects was that the President of Austin Peay requested that in the long range goals currently being developed there be plans for the implementation of TQM principles for both academic and administrative units. In addition, a minimum of two new TQM teams will be started in 1992-93 and a minimum of five the following year. Training and planning in TQM concepts, philosophy and techniques is also planned for mid-level management (deans and directors).

State Technical Institute at Memphis

The first approach to TQM at STIM was unsuccessful due to poor initial preparation of staff and a reluctance by participants to spend the necessary time to become acquainted with the core philosophy, principles, and techniques of TQM. However, assessment leaders continued to promote the strengths of Quality Management, and were ultimately successful in interesting the president. With the president's backing and participation, a new team, with two new facilitators, has begun to meet weekly. Approximately 24 participants attend these meetings, and a pilot project has been identified--a need for reviewing and improving telephone courtesy and customer service. The new TQM team has been meeting since March 1992, and has worked on team building and acquaintance with techniques of brainstorming, fish-boning, and flow-charting.

Memphis State University

A pilot project was undertaken at Memphis State University, where a problem was identified concerning the number of signatures required and the amount of time needed for paper work to move through channels of approval. After this difficulty had been clarified, the process of moving a piece of paper was flow charted through three offices--the Graduate Dean's office, the office of the Vice-President for Academic Affairs, and the office of the President. This procedure provided information needed to eliminate a number of signatures, to reduce the amount of time for processing requests, and to place accountability and responsibility closer to those levels of administration where decisions are made.

# APPENDIX D

SAMFORD UNIVERSITY MATERIALS

095

# SAMFORD UNIVERSITY

## STUDENT-FIRST QUALITY QUEST

## PROGRESS REPORT

August 1992

# QUALITY QUEST IN THE ACADEMIC PROCESS: OPERATIONAL EFFORTS

## INTRODUCTION

This paper reports Samford University's efforts from January 1990 to August 1992 to:

1. Renew and strengthen academic programs.
2. Integrate assessment, planning, and budgeting.
3. Adapt and adopt total quality management.

## PLANNING AND EVALUATION

### A. CURRENT PROCESS

The administrative leadership has designed and is currently implementing a comprehensive planning-budgeting-evaluation system to link assessment of effectiveness with planning and budgeting. This new system is part of Samford's "continuous quality improvement" thrust which includes a planning process designed to clarify Samford's corporate understanding of our mission, customers, critical processes, values, and vision. These emerging efforts are described in later sections.

Samford has not had in place a comprehensive system of evaluating achievement of purpose and of relating evaluated results to planning and budgeting. Rather, the current budgeting system operates in typical academic style with continuing operations incrementally funded, for the most part, each new year.

### B. PROCESS FOR REFINING PURPOSE AND GOALS

Recently two concurrent and complementary processes have operated for refining institutional purpose and goals: (1) Sesquicentennial Curriculum Renewal, and (2) "Student-First Quality Quest" (S-FQQ).

#### 1. Sesquicentennial Curriculum Renewal

The emphasis of Samford University's Sesquicentennial Year, 1991-92, is curriculum renewal. In response to the President's desire for a review of the curriculum, the Provost initiated in January, 1990, a comprehensive study of Samford's academic program involving twelve Study Groups. About 144 members of the Samford faculty, student body, staff, alumni, and other constituency groups were involved in research and analysis in Spring, 1990, with the respective Study Group Leaders writing the actual reports in the Summer, 1990.

Reports were available for review by faculty before the faculty workshop in August, 1990. During the workshop, each Study Group leader presented an oral summary of the respective report and fielded discussion. Faculty had three additional opportunities during the workshop to critique reports through: (1)

discussion groups; (2) school based groups; and (3) standing faculty committees. September and October, 1990, Study Group leaders discussed the reports with interested parties. Synthesizing input, leaders met with their respective Study Groups to revise reports. The twelve reports with a summary perspective by the Provost accompany this document.

a. Goals. While all reports dealt with important academic issues, several have direct implications for "refining purpose and goals." The Goals report focused on educational goals for Samford undergraduates. Given the struggles of this Study Group and its resulting report, it became clear that the Samford community, even with relative religious and social agreement, holds broad, difficult-to-assess educational goals.

b. Constituencies. A comprehensive survey was developed and conducted by American College Testing Service of the academic expectations of Samford constituent groups: (1) samples of 1990 freshmen and upper division students; (2) full-time faculty; (3) the board of trustees; (4) samples of parents of 1990 freshmen and upper division students; (5) samples of 1978 and 1988 graduates; (6) sample of Alabama Baptist leaders (ordained ministers); (7) sample of Alabama high school guidance counselors; (8) a national sample of high school students who took the ACT in 1989-90, attaining a composite score of 21 or higher and who identified themselves as Southern Baptists; (9) a sample of parents of students with the specifications as the same group described in 8 (above), though not necessarily the same individual students.

Results of the above survey were summarized in the Constituencies report, shared with faculty and administration, and additionally analyzed on campus by an ACT survey expert. Preliminary analyses make it obvious that disparities exist among faculty, Board, and Alabama Baptist leaders concerning academic standards and their current rigor.

c. General Education. The General Education Study Group recommended a single, interdisciplinary core curriculum, similar in pattern to, but different in content from, Lynne V. Cheney's 50 Hours: A Core Curriculum for College Students. The result has been to pilot the new core curriculum, beginning Fall, 1991, with participation in the AAC Core Curriculum Project and a Fund for the Improvement of Post Secondary Education grant of about $190,000 for 1991-94. The faculty agreed to support this pilot program, to assess its effectiveness through a quasi-controlled study, and to consider its adoption in light of assessed results. Small faculty teams, whose members were granted partially released time, planned specific syllabi of the pilot program in Spring, 1991, and continued to work this Summer (1991) preparing actual course material for the pilot to begin in August, 1991. Over 130 admitted freshmen applied to enter the pilot, and 75 are being enrolled. The two most interdisciplinary core courses are Cultural Heritages--

combining history, literature, and the arts, and Personal Wholeness--combining religion, sociology, psychology, and health. These two courses have stimulated lively debates about what should characterize a Samford-educated person. The general educational aims of Samford are being reshaped along "content" versus "process" dimensions through faculty discussions.

d. Christian University. Other than general education recommendations, no report generated more discussion about Samford's basic purpose than that of the Christian University Study Group. The many facets by which Samford operationally implements its Christian purpose will likely be an ongoing discussion. For example, the Christian emphasis surfaced strongly in the mission and values components of the planning work of the S-FQQ Lead Team (discussed later).

e. Instructional Effectiveness. This study group brought to the fore the Samford faculty's primary academic self identity -- "teaching scholars." While many Samford faculty do significant research and publication, they see their primary function as teaching and the facilitating of student learning. This Study Group called for a major commitment of Samford to assist faculty in improving their teaching by asking for a Center on Teaching Effectiveness. Again a Curriculum Renewal Study Group affirmed a basic commitment of the University.

f. International Studies. The response to the International Studies Report recommendation that Samford become more global and international appears to be almost uniformly affirmed by the faculty.

In summary, the research and interaction of so many members of the Samford community required to develop the twelve Study Reports, followed by detailed presentations, widespread discussions, and action initiatives have all led to healthy dialogue about Samford's most basic social value or its purpose. Furthermore, curriculum renewal surveys, analyses, documents, initiatives, and continuing discussions will provide a useful foundation, particularly in the academic area, for the Self Study to begin in 1994.

2. S-FQQ

President Corts and those who report directly to him function as the Lead Team for Samford's "Student-First Quality Quest" (S-FQQ). They have committed themselves and the University to the following goals:

- Make Samford a nationally recognized learning/teaching university;
- Make continuous quality improvement common practice at Samford University;
- Develop constancy of purpose over time, aligning Samford's operations and results with its mission;
- Demonstrate to the national higher education community the power of the quality paradigm to improve academic praxis;

- Measure ourselves against the Malcolm Baldrige National Quality Award in 1991 (Note: At present, there is no Baldrige Award competition for non-profit institutions such as universities.);
- Be a model of "institutional effectiveness" in the 1996 reaffirmation of accreditation by the Commission on Colleges, SACS.

The administrative leadership believes the principles of institutional effectiveness and continuous quality working together provide the most over-arching strategy for Samford's optimal achievement. "Institutional effectiveness" is the most appropriate measure of quality for Samford because of its commitment to "service." Samford's quality, consistent with its values, should be judged more by the effects of its service than by richness of resources or prestige.

The new paradigm of quality, emphasizing improvement processes through measures of results, is consistent with Samford's basic mission and values and Section III of the Criteria of the Commission on Colleges of the Southern Association of Colleges and Schools (SACS). It unites the scientific approach in seeking and verifying sources of problems, with the artistry of people working together to develop solutions. Leaders become facilitating servants driving out fear to allow originality and talent to flower.

Therefore our organizational goal is:

> To optimize Samford's effectiveness by infusing, in a Christian manner, the theory, ethic, and practice of continuous quality improvement into every function of Samford University.

a. Key Concepts from Seven Baldrige Guidelines. The Samford leadership is committed to integrating the principles of assessment of institutional effectiveness and the seven categories of the guidelines of the Malcolm Baldrige National Quality Award into the leadership and management of Samford University. The Baldrige guidelines are briefly reviewed below to demonstrate their congruence with Section III of the SACS Criteria:

> The organization's leadership develops "a clear and visible quality value system" supported by a "management system" that guides all of the organization's efforts toward "quality excellence." Information and analysis informs the organization's "total quality management system." "Strategic Quality Planning" works to develop "quality leadership" and to integrate "quality improvement planning" into the organization's total planning effort. "Human Resource Utilization" develops the "full potential" of the organization's people and provides "an environment conducive to full participation, quality leadership, and personal and organizational growth." "Quality Assurance of Products and Services" focuses on designing and controlling processes. "Quality Results" are judged by how well they meet customer needs and expectations and from analysis of the

organization's operations. In "Customer Satisfaction," the organization displays a deep knowledge of customer needs and demonstrates ability and inclination to respond to customer needs.

b. Quality Improvement Work To Date. Samford's leadership's aspirations to integrate assessment of effectiveness and quality improvement principles have been informed by two years of experience with both. Major events in these last two years are described below:

August 1989: The Office of Quality Assessment was established with John Harris to initiate and facilitate assessment of institutional effectiveness and total quality management. Harris brought with him a sub-contract on a FIPSE grant with Dr. Trudy Banta, UT-Knoxville, to describe the application of Deming's quality improvement to higher education. Dr. David Sylwester, Head of the Statistics Department, UT-Knoxville, became co-principle investigator on this project. It should be noted that Dr. Banta comes to Samford often to discuss the interaction of assessment and quality improvement.

November 1989: A conference in the School of Pharmacy "Quality Improvement in Higher Education," was sponsored by The American Association of Colleges of Pharmacy. In addition to Pharmacy faculty and administration, this conference provided Samford's administrative leadership and a cross section of faculty an overview of business and industry's quality improvement principles as they may be adapted to higher education.
President Corts committed himself and Samford to learning more about quality improvement and adopting it as Samford's leadership and management paradigm.

January 1990: President's Lead Team for Student-First Quality Quest was identified.

February-June 1990: Each month in this period, the President's Lead Team was involved in an on-campus, QI-training seminar or an off-campus site visit. These orientation-training events began with a two day seminar on the Samford campus with the administrative leadership of the University of Minnesota-Duluth, the Baptist Medical Center (BMC) Birmingham, and Samford University. The seminar presentations were a combination of CEO's leading QI in their organizations, QI and statistical consultants, and administrators at UM-Duluth, BMC, and Samford. Dr. David Sylwester conducted a full day of training in statistical thinking with the President's Lead Team. Dr. Edwin Coate, Vice President for Administration, Oregon State University, came to advise the President's Lead Team on how to get started, given his experience at OSU. Dr. Coate's visit was especially helpful in two ways: (1) Drew our attention to an aspect of QI with which we were not well acquainted--quality planning; (2) Led us to a splendid consultant-trainer on quality planning. The Lead Team made site visits to two companies noted for their QI efforts: (1) West Paces Ferry Hospital in Atlanta, a part of Hospital Corporation of America; (2) Milliken Company headquarters at Spartanburg, SC, a Malcolm Baldrige National Quality Award winner.

July 1990: One week of continuous training in planning and first efforts at describing Samford's Mission-Customers-Critical Processes-Values-Vision (M-C-P-V-V) led by Dr. Catherine Collett, formerly Hewlett-Packard Corporation's quality improvement leader, and now an independent consultant on quality improvement focusing on educational and service organizations....(The President's Lead Team continued to work on Samford's M-C-P-V-V during Fall, 1990 and Winter-Spring, 1991.)

September 1990: President Corts presented at an assembly of Samford faculty and staff, about 700 persons, his sense of Samford's mission, informed by the July planning session, and his long term commitment to infusing continuous quality improvement into the fabric of Samford University.

Fall 1990 - Spring 1991:

1) S-FQQ General Orientation and Training: Fall, Winter, and Spring orientation and training sessions on the basic principles and techniques of quality improvement were conducted for deans, associate and assistant deans, department heads, non-academic administrators, and selected faculty. Near the end of each session, members of the Lead Team discussed the evolving statements of Mission, Customers, Critical Processes, Values, and Vision.
2) OTIS SYSTEM: As part of S-FQQ, a suggestion system open to students, faculty and staff called OTIS (Opportunity To Improve Samford) was begun in September with an Assistant to the President functioning as an Ombudsman. More recently, a second opportunity more focused on complaints has been added--SO-AS (Sound Off About Samford). To date, 286 OTIS or SO-AS forms have been received; and 278 responded to by relevant administrators. In six (6) cases the issues were so broad that University-wide cross functional teams were established to deal with the suggestions. (These teams are named in the next section.)
3) S-FQQ Teams: Teamwork is basic to quality improvement efforts. Beginning Fall, 1990, four Within-Work Group Teams were begun: Physical Plant Supervisors, Music Faculty, Admissions Staff, Custodial Supervisors. Seven Cross-Functional Teams were begun; six stimulated by suggestions from the OTIS system. Topics included: energy conservation, recycling, campus mailing, copiers and FAX's, electronic data transfer, and a Samford debit and all-purpose card. A seventh Cross-Functional Team was established to examine the entire Freshman Year Experience as to its effectiveness in meeting the needs and expectations of the Samford freshman.
4) Conference on "Deming-style Quality in Higher Education": The content of this conference, that included more than 100 participants from colleges and universities across the nation, can be reviewed from a copy of the program.

Summer 1991:

1) Integrated Assessment, Planning, and Budgeting, and Quality Improvement plan and organization. The Assistant to the President for Management and Budget and the Assistant to the Provost for Quality Assessment worked with the President's Lead Team to develop this integrated plan to serve as Samford's Fifth-Year Report.
2) "Governor's Conference on Quality Improvement in K-12 Education." Dr. Julian Prince, Dean, Orlean Bullard Beeson School of Education, developed through the Samford Foundation this conference for Alabama school administrators for August 6-7. Among the speakers was Dr. Herbert Walberg who chairs the International Educational Indicators Project of the Organization for Economic Cooperation and Development, Paris, France. The GOAL/QPC non-profit QI consulting firm in Massachusetts, through their educational specialist Ms. Diane Ritter, assisted Dean Prince in designing this conference. Ms. Ritter was also a presenter.
3) M-C-P-V-V Planning. The President's Lead Team continued to work on Samford's M-C-P-V-V during the Fall, 1990 and Winter-Spring, 1991. This year of Lead Team planning reached a point of passage August 27-29, 1991, with Dr. Collett's return for three days work with the Lead Team to assist it in drawing together its year's work on M-C-P-V-V. The week prior (August 19-23) to Dr. Collett's visit, the Lead Team's 1990-91 work on M-C-P-V-V was discussed with full-time faculty at the annual Faculty Workshop. The faculty's suggestions were used during the Lead Team's discussion the following week, August 27-29.

   The refined M-C-P-V-V was deployed through the Samford academic and administrative structure in a "relay" fashion to facilitate internal alignment on M-C-P-V-V and to provide a context for planning and budgeting, assessment, and S-FQQ.
4) Quality Planning Tools Training. While Dr. Collett was at Samford to facilitate further work by the President's Lead Team on M-C-P-V-V, she also provided three half days of training in quality planning tools to about 30 Samford faculty and administrators. The next phase of S-FQQ at Samford will require more quality teams. In each school and administrative division, QI trainer-facilitators will be identified and trained to coach and facilitate those teams. While many of these trainer-facilitators have already been trained in the group processes and statistical tools of process improvement, they need these additional quality planning tools.
5) Dr. David Sylwester and Dr. John Harris neared completion of their FIPSE report on the application of Deming QI to higher education. Furthermore, most of the Samford FIPSE sub-contract funds were allocated to reimburse 15 authors for writing brief articles on applications of QI to academic processes. For example, a Samford biologist wrote about QI in teaching anatomy and physiology. A University of Alabama engineering professor is

focused on the QI principle of customer orientation in preparing research papers for publications. Peter Ewell wrote a paper about the contribution of longitudinal student tracking to QI. GOAL/QPC will publish this book of readings under the title -- "Quality Improvement in Academic Processes."

Fall 1991:

1) Samford's Mission-Customer-Processes-Values Standards-Vision (MCPVV) under development from July 1990 to September 1991 was presented to all faculty and budget heads for review and comment.
2) The new approach of relating assessment to actual planning and budgeting within the total quality management model was presented to all faculty and budget heads.
3) Modifications were made in MCPVV based on faculty and staff feedback.
4) Revised MCPVV's were sent to all budget units (95) with suggested guidelines for writing their own MCPVV's congruent with Samford's overall MCPVV.
5) The Assessment, Planning and Budgeting Panel (A P & B Panel) was appointed to review and comment on every MCPVV along with the President's Quality Council. (What was known as the Lead Team was slightly modified in membership and changed to the Quality Council.)
6) Budgeting for 1992-93 was broken into two parts: a) Continuation budget and b) Special enhancement budget reflecting better fulfillment of MCPVV. The continuation budgeting for June 1992 - May 1993 was completed in December 1992. (Special enhancement budgeting will occur in February 1992.)
7) Several Work Group and Cross-functional Teams reported to the Quality Council and several new ones began, i.e., Teaching/Learning Quality Team, Calendar/Space Scheduling Team, Teacher Education Team, Nursing Strategic Planning Team.
8) The Sylwester/Harris paper on the "Application of Quality Improvement to Higher Education" was completed, sent to three national reviewers, and modified on basis of their comments.
9) Plans were laid for three TQM projects:

   a) Development of quality team guide training procedures especially designed for faculty and academic administrators by Dr. Billy Strickland, Associate Dean of Music.

   b) Development of quality team guide and training procedures for student quality teams in academic courses by Ms. Kathryn Baugher, Director of Admissions Counselors.

   c) Design of a Samford Factbook reporting performance measures of the eight processes of the MCPVV.

Winter-Summer,1992:

1) We developed "Assessment Planning Guidelines" describing how departments or units may assess fulfillment of their Missions. Non-instructional units completed their Assessment Plans in the Spring; the instructional units completed theirs by September 11. The Assessment Planning and Budgeting Panel (AP&B) will review and comment on all Assessment Plans by mid-September. Units will complete their planned assessments by Thanksgiving. In December, the AP&B will review the results of each unit's assessment.
2) The Provost led the eight school Deans in an interactive critique of their respective MCPVV's.
3) The Samford and GOAL/QPC editors edited the book of readings, Quality Quest in the Academic Process, in the Spring. Goal/QPC, the co-publisher with Samford, distributed the first 500 copies at the Third Annual Quality Symposium on Quality in Action in Academe at Lehigh, July 28-31. Orders for the book may be directed to GOAL/QPC, 13 Branch Street, Methuen, MA 01844-1953, phone (508) 685-3900, FAX (508) 685-6151.
4) The President combined the Quality Council Meetings with his Management Meetings into one weekly meeting.
5) The Quality Council retreated for two days for planning. The group discussed how to deploy Samford's Vision and to relate assessment of effectiveness to planning and budgeting in the context of TQM. While we have not completed the model, we understand budgeting cannot be a carrot or stick for quality improvement. As a result of this planning retreat, the Provost is meeting with Deans and academic support staff to discuss how they can optimize processes and resources to fulfill their Missions and Visions.
6) The Quality Council has begun to consider cross-functional process management. A Bell South executive and a Xerox Corporate Quality expert presented the approach of both corporations to cross-functional process management. The President assigned one or more Processes to each member of the Quality Council. Process Reporters will: 1) Identify the primary customers of each Process. 2) Map the process. 3) Identify a few, simple performance measures for their Process. 4) Report their maps and performance measures.
7) Work Group and Cross Functional Teams continued and reported; and new ones began. The Library Staff Re-organization Team presented at a pre-conference tutorial on QI in higher education at the national meeting of ASQC.
8) Because of interests in the Birmingham business community, we have begun offering TQM training for organizations in this area. As a result, the Samford Quality Center was established. The Center developed a certificate program consisting of seven non-degree credit courses. David Sylwester taught the first course on TQM Statistical Concepts and Tools . The others are scheduled for this Fall and early Winter. The decision was made not to have separate training organizations on quality for on- and off-campus personnel.

We will manage the courses for the public and usually staff them the same way as courses for on-campus faculty and staff. By intermingling on- and off-campus quality training, the University and Birmingham businesses can learn quality lessons from each other.

9) Kathy Baugher, Director of Admissions, designed LEARN, a manual for student quality teams. It guides student teams in the use of quality tools when a professor asks a small group of students to help him or her improve class learning and teaching. Three Samford faculty piloted LEARN in three Summer courses - Accounting, Biology, and Mathematics. This Fall up to 15 classes at Samford and Belmont University will further field test LEARN along with individual faculty at other institutions.

10) The Associate Dean of Music produced the first draft of a manual of quality procedures especially designed for faculty committees and academic administrators. He and an Associate Dean of Metro College will revise and complete it this Fall.

11) In July, we began Quality Orientations for all faculty and staff. Some examples of the Orientations are: The first one was Joel Barker's video -- The Business of Paradigms. Another was the Red Bead experiment. Quality Teams will make presentations.

12) The new Dean of Education has committed to provide QI training to public schools in this area. She has also developed an agreement with the Alabama State Department of Education to include TQM training in graduate courses for certification of principals and superintendents.

c. Planning and Purpose and Goals. As seen above, the quality planning effort that got under way in July, 1990, directly related to refining purpose and goals. By September 1991, the Mission Statement was as follows:

> Mission identifies the raison d'etre of an organization, the irreducible value that it contributes to its internal and external constituencies. It defines the difference the organization is determined to make. With no frills, it articulates its distinctive character. Here is our Mission Statement.
>
> *The mission of Samford University is to nurture persons, offering learning experiences and relationships within a Christian community, so that each participant may develop personal empowerment academic/career competency, social/civic responsibility, ethical and spiritual strength; and continuously to improve the effectiveness of the community.*

It should be noted that the motto for the Sesquicentennial -- "FOR GOD, FOR LEARNING, FOREVER" -- was developed at the time of the Lead Team's first work-session with Dr. Collett in July, 1990. In fact, the first discussion of it by the administrative leadership was in that session.

While all internal and external "Customers" are yet to be identified, it is clear from the title of Samford's quality effort, "Student-First Quality Quest," that **students** are the prime Customers. Customers are defined as:

The customers of Samford University are those persons who transact with the University; those who may transact with the University; those who benefit from the opportunities Samford offers; those who have a personal interest or involvement in Samford; those who have the capacity or potential to affect Samford or to be affected by Samford.

*The primary customers of Samford University are currently enrolled students; among other customers are:*

- *students' families;*
- *prospective students;*
- *faculty and staff employees, retirees, and former employees;*
- *Alabama Baptists, Southern Baptists;*
- *Christian community;*
- *alumni, contributors, vendors, suppliers;*
- *potential employers and graduate/professional schools.*

The Lead Team agreed on eight Critical Processes that must be managed across all areas of the University if it is to fulfill its mission to its customers: (1) learning, (2) planning, (3) enrolling, (4) staffing, (5) funding, (6) living, (7) marketing, and (8) complying.

The Value standards of Samford are:

Operational beliefs, tested over many years, provide dependable norms for organizational behavior. These non–negotiable convictions are essential to its integrity and expressive of its mission.

*As a Christian community of learners, Samford University holds dear:*

- *belief in God as Creator and in the traditions of the Christian faith;*
- *the ministry and mission of the church;*
- *the infinite worth of persons and the development of the full potential of each person at every stage in life, and "love of neighbor as one's self;"*
- *the making of ethical choices based on the life of Jesus Christ, the teachings of the Bible, the well–being of others, and an informed conscience;*

- *openness, truthfulness, justice, and fairness among persons of both sexes, all races and ethnic identities, all ages, and all levels of giftedness; and respect for opinions, convictions and beliefs different from our own;*
- *the aspiration for personal achievement, economic self sufficiency, and public usefulness;*
- *a work ethic characterized by diligence, honesty, thrift, and a sincere effort to do one's best;*
- *civic awareness and responsibility, the processes of representative government, understanding of other cultures, and sensitivity to other people, places, and systems;*
- *service to community and constituency, within the University and the wider society.*

Finally, the Vision of Samford is:

Vision is the future to which an institution aspires as it fulfills its mission and expresses its values. It describes the attainable progress most cherished and most worthy of the commitment of every member of the community.

The vision of Samford University is to be among the finest and truest Christian universities in the world, acknowledged as one of the most distinctive universities because it so effectively meets students' needs, and uniquely reckons with academic learning and the Christian faith, having such influential Christian scholar-teachers on the faculty and graduating strong Christian leadership.

- *Aggressive in emphasizing learning, the integration of knowledge and the relationship of Christian faith to all human concerns--intellectual, emotional, physical, and spiritual.*
- *An ideal setting where Christian community values predominate in classroom and residential settings; where diagnostics direct assistance and mentoring to the unique needs and gifts of each student; where Christian charity is normative.*
- *Aware of and involved in global economic, political, cultural, and religious challenges confronting society, and encouraging leadership in meeting those challenges.*
- *Secure in its distinctive identity, choosing to be a developing model rather than replicating another; applying quality improvement principles and practices to managerial and academic processes.*

## PROCESS INCORPORATING EVALUATION RESULTS INTO PLANNING

Samford is implementing a systematic planning-budgeting-evaluation process, incorporating evaluation of institutional effectiveness and continuous quality improvement. The entire process should be fully operational by November, 1994. Building on the work completed in curriculum renewal and S-FQQ, two

new committees will be operating to meet this target: (1) Quality Council, and (2) Assessment, Planning and Budgeting Panel.

A. CONTEXT

For all elements to interface effectively, the University's mission-customers-processes-values-vision must be internally aligned. It involves the President's Quality Council moving its version of Samford's M-C-P-V-V to the Assessment, Planning and Budgeting Panel (AP&BP) asking them for (1) comments back to the Council on its version of M-C-P-V-V; (2) comments on the application of M-C-P-V-V to the work of the various departments of the University. Following these actions, the major division heads will share the M-C-P-V-V within their division with the intended outcome of widely shared understanding and translation of what Samford should be when it is focused. The catch ball process was begun in Fall 1991, so that members of the Samford community develop a similar frame of reference and language for the new system of assessing, planning, and budgeting and an amplified S-FQQ.

B. ASSESSING, PLANNING, AND BUDGETING

A new system of assessing, planning, and budgeting has been initiated by the President's Lead Team, re-constituted as the Quality Council. The Quality Council developed a broad scope for long range planning developing specific procedures and forms for both one and five-year operational plans and budgets. Following a review from the A P & B Panel, the system will engage every unit in planning its operations and budgets and will work its way back up the administrative structure with the assistance of the planning officer at each critical stage. Eventually, the Quality Council will prepare a summary plan and budget for the Assessment, Planning and Budgeting Panel to review. A comprehensive plan and budget will be presented to the President who will propose the operating plan and budget to the Board of Trustees. It is important to note that when the assessment plan is fully operational, its results will be fed into the planning and budgeting system through the Quality Council.

C. ASSESSMENT OF INSTITUTIONAL EFFECTIVENESS

The Quality Council will develop policy for assessing institutional effectiveness as it develops a broad scope for assessing, planning, and budgeting. Because the approaches and techniques of assessing academic and administrative functions are quite different, two different assessment systems will be operated.

1. Academic Assessment

In academic assessment, evaluation is based on four major assessments: (1) program quality and productivity; (2) student competencies -- a) general education and b) academic major and graduate or professional specialty; (3) instructional effectiveness; and (4) organizational and managerial effectiveness.

Assessments take into account the mission, customers, processes, values, and vision of the particular school or department. For example, the curriculum for a given major should be assessed against national standards, and Samford's special Mission, and particular Customers' needs and satisfaction.

The Provost, working with the Assessment Officer, will produce the general Academic Assessment Plan, utilizing the four components described above within the context of Samford's M-C-P-V-V. Each dean will produce a School Assessment Plan which in turn will guide program or departmental faculties to produce annual department assessments based on: (1) assessment of seniors' exit competencies; (2) student evaluations of instruction; (3) faculty and staff evaluations of heads and deans; and (4) follow-up surveys of graduates.

Every fifth year, each department or school will report the results of a national peer review. In cases where there are periodic, external accreditation reviews of professional schools, such accreditation reports will serve the purpose of one fifth-year review in a ten year cycle. But such an accreditation review in one year will be followed by a national peer review five years later.

Annual school assessments and fifth-year national peer reviews or accreditation reports will be sent concurrently to the Provost and the Assessment Officer for comments. Both the Provost and the Assessment Officer will forward the school assessments to the Assessing, Planning and Budgeting Panel who in turn will review and submit it to the Quality Council which will add any comments or instructions it sees fit. Thus a feedback loop is closed between assessment of the effectiveness of planning and budgeting in the academic sphere of the University.

2. Administrative Assessment

As indicated above, administrative (non-teaching areas) assessment will be based primarily on: (1) measures of fulfillment of mission; (2) meeting customer needs and expectations; (3) reduction of process errors and variation; (4) consistency with values; and (5) contribution to the shared vision. Respective division heads will develop guidelines, propose instruments, and provide formats for annual M-C-P-V-V reports in consultation with the Assessment Officer. The Quality Council will appoint a Quality Improvement Audit Group each year to review the M-C-P-V-V reports and conduct on-site reviews as deemed necessary. These audits, along with the M-C-P-V-V reports, will be sent to the respective division head. Each division head will send the M-C-P-V-V reports, quality audits, and any comments to the Assessing, Planning and Budgeting Panel, which after review, will send them directly to the Quality Council. Thus the feedback loop, as in the case of academic assessment, is closed between planning, budgeting, and assessment.

D. SAMFORD'S STUDENT-FIRST QUALITY QUEST

The comprehensive planning, budgeting, and assessment of institutional effectiveness described earlier will be most effective and supported when buttressed by shared values, team spirit, and statistical thinking and tools inherent in continuous quality improvement. S-FQQ represents a determined effort to infuse the Samford culture with the following quality improvement commitments and principles: (1) concern for customer needs and expectations; (2) constancy of purpose through internal alignment; (3) servant leadership that facilitates, supports, empowers, and encourages; (4) statistical thinking to distinguish common from special causes of variation; and (5) continuous improvement of all processes through the empowered persons closest to them.

To play its full role, S-FQQ will have three functions: (1) facilitate internal alignment of mission-customers-processes-values-vision; (2) orient, train, and facilitate cross functional teams authorized by the Quality Council to work on major breakthrough possibilities; and (3) train and support school-based and administrative unit trainers and facilitators supporting within work group, S-FQQ teams.

E. SAMFORD BOARD OF VISITORS

President Corts will nominate and the Samford Board of Trustees will name a Board of Visitors to provide annual, external evaluation and advice on Samford's progress in meeting SACS institutional effectiveness criteria and Baldrige Application guidelines. This Board of Visitors will be composed of nationally recognized scholars and experts in Christian higher education, academic quality, institutional research, institutional effectiveness, and quality improvement.

# ASSESSMENT PLANNING GUIDELINES

## Quality Council

### Phase I

October 1991 - March 1992: **Context for Planning Through MCPVV.**

Every budget unit received the University-wide MCPVV; each drafted its unit MCPVV. The Quality Council and the Assessment, Planning, & Budgeting Panel (AP&B) reviewed these MCPVV's. The respective Vice President or Provost sent these comments back to the budget units. The aim was and is to develop more "constancy of purpose" throughout the University. We never completely settle the Mission, Customers, Processes, Value Standards, and Vision of a dynamic organization. Nevertheless, through the MCPVV documents and the resulting dialogue, we can build a common framework and terms to enhance assessment, planning, and budgeting.

The MCPVV's provide the criteria for a unit's assessment of its Mission. They also identify evaluators, i.e., primary Customers. Each department's, school's, or administrative unit's work can compare its work with its Value Standards. Finally, the department, school, or administrative unit will describe its progress toward its Vision.

## Phase II

April-June 1992: **Development of Assessment Plan consistent with MCPVV's.**

Each academic and administrative unit will develop a plan to assess itself within the context of its MCPVV.

Customer Feedback: Each unit's Assessment Plan should include feedback from primary Customers. First, the department, school, or unit identifies it primary customers. After making available its M-C-P-V-V, the faculty or staff asks their Customers to comment on how well they are being served by the unit. Customer inquiries can take many forms -- one-to-one interviews, focus groups, third party interviews, or paper-and-pencil questionnaires.

The following questions are for example only:

a) "As one of our Customers, how well are we meeting your needs and expectations?" "Based on your Customer experience, what are our strengths and opportunities for improvement?"

b) "Do we in this department or office nurture each other through learning experiences and relationships?" "That is, do we have a climate in this department or office conducive to professional and personal development?" "Do students perceive us (faculty or staff) as receptive to learning along with them?"

c) "How effective and efficient are our Processes, instructional or administrative?" "Are there needless steps in our office processes and procedures?" "That is, what steps, if any, could we cut out?" "How can we make our processes simpler and more user-friendly?"

d) "Do we live faithfully by our and the University's Value Standards?" "Where do we frequently depart from our stated Value Standards?"

f) "Is our Vision what you think this department or unit should become?" "How much progress are we making in attaining this Vision?" "Make suggestions of how we could move nearer our Vision."

Method: The primary purpose of Customer Feedback is to provide the department or office information for improvement. Therefore, the unit determines how it gets Customer Feedback in the manner most likely to increase the department's or office's understanding of its Customers. We will trust one another to seek unbiased, representative Customer Feedback.

There are many ways to get Customer Feedback. Some of them are paper-and-pencil or electronic (E Mail) questionnaires, focus groups, direct individual interviews, or interviews conducted by third parties, from on or off campus.

Study Processes: Each non-instructional unit [1] should plan to study continuously the effectiveness, reliability or consistency, and simplicity of its processes. In this first year, each unit or office should plan to study at least one of its primary Processes. Such study should include:

- Asking the process's Customers to assess it.

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[1] Instructional units are those that provide credit instruction. Non-instructional units include academic service units such as Student Records, Campus Ministry, and Davis Library as well as those units in Business Affairs, Student Affairs, University Relations, and Athletics. The Adult Degree Program is an Instructional Unit.

- Identifying issues or problems.
- Diagraming or flow charting the process as it is.
- Developing base-line performance measures, i.e. number of items processed in a given time-frame, turn-around time, cost of the process, errors.
- Identifying causes of the problem(s).
- Developing a plan for improvement, implementing the plan, checking on it, and acting on the information from the check.

(See the attached one page diagram of this Process.)

Method: In cooperation with the Office for Quality Assessment, each Vice President will provide training in the above steps. The aim is to increase our understanding of our customers and processes to identify opportunities for improvement. After problems have been identified, the unit moves to identify root causes and develop improvements. In brief, the assessment plan describes how the unit will begin to assess and improve at least one of its processes.

Student Achievement: Each instructional unit (school or department) should identify:

1) sources of information about student achievement
2) three to five peer departments or schools for possible benchmark comparisons on assessing student achievement.

Examples of student achievement information are:

a) License and certification examination scores of graduates.

b) Students' and graduates' performance on graduate and professional schools' test, i.e. MCAT, LSAT, GRE -- Subject Examinations.

c) Senior projects as judged by External Readers.

d) National Peer Review.

e) Seniors' performance on comprehensive exit examinations, i.e. MFAT or locally constructed tests.

f) Graduates' admission to graduate or professional schools.

g) Employers' evaluations of recent graduates' entry knowledge and skills.

h) Academic or professional recognitions of students or graduates.

i) Anecdotal information collected and analyzed about successes or difficulties of students or graduates.

j) Any data, quantitative or qualitative that aids faculty in understanding the effects of its program of study or instructional practices.

Method: The Assessment Plan identifies the most accessible and useful sources of information about student or graduate achievement and how it will collect and analyze this information. Furthermore, the department or school will identify three to five peer departments or schools for future benchmark comparisons. While peers should be identified, actual collection of benchmark data is not requested in the Fall 1992. Rather in the Fall 1992, the department or school should determine what data can be collected from which peers so that such data can be collected in the Fall 1993.

Enrollment or Work Load: All units, instructional and non-instructional, should report enrollments or work loads for the last five years. Then they should project enrollments or work loads for the next five years. While estimates of future enrollments should realistically consider demographic and social/economic information, they should also reflect the unit's aspirations. These histories and projections with the other assessment data should help the unit evaluate its contribution to Samford's Mission.

Enrollment data should be of two types: Head count and full-time-equated (FTE). FTE enrollments may be conveniently calculated as:

General Undergraduate FTE =

Full-time undergraduate student head count + total part-time undergraduate student credit hours / 12

Graduate FTE =

Full-time head count + total part-time graduate student credit hours / 9, and

Law FTE =

Full time law school head count + total part-time law student credit hours / 10.

Work load data other than enrollment data may take many forms. Units should select those measures of their work that most significantly drive or reflect the total amount of work done. No office or unit should attempt to measure every aspect of its work. Rather, it should select those measures that show the fluctuations of total work load. The following examples come to mind:

Post Office: Stamped items of mailed received and sent.

Physical Plant: Work orders received and processed.

Student Records: Registration transactions, transcript requests.

Each unit should select a few (more than one and not more than five) sets of such information that it can with reasonable convenience collect periodically and summarize for each year. Enrollments should be for the Fall, Jan Term, Spring, and Summer. Non-enrollment work load data should be for June 1 to May 1 of each year. Where historic data is not available, the year 1992-93 should be established as the base line year.

Assessment Plan Components:

Non-instructional Assessment Plans:

a) List of primary Customers showing the total number (estimate when necessary) in each customer group. When the total number in a primary customer group is too large for all to be surveyed, describe a plan for selecting a sample.

b) Primary Customers' assessments, i.e., focus groups, individual interviews, third party interviews, questionnaires, critical incident techniques, anecdotal reports, etc.

c) Histories and projections of work loads.

d) Study of a process's effectiveness, reliability, efficiency, and simplicity. (See attached Process Improvement Process)

Instructional Assessment Plans:

a) List of primary Customers showing the total number (estimate when necessary) in each customer group. When the total number

in a primary customer group is too large for all to be surveyed, describe the plan for selecting a sample.

b) Primary Customers' assessments, i.e. focus groups, individual interviews, third party interviews, questionnaires, critical incident techniques, anecdotal reports, etc.

c) Histories and projections of work loads.

d) Documentation of student achievement.

Each unit should try to complete its assessment plan and have it in the Provost's or respective Vice President's office by June 30.

July-August 1992: **Feedback on Assessment Plans** to Academic Administrative Units from Quality Council and AP&B.

## Phase III

September-November 1992: **Administration of Planned Assessment**

In September-November 1992, conduct the Assessment Plan. By November 30, 1992, each unit should complete its assessment report with particular attention to those findings that speak to faculty and staff development, curriculum, instruction, and work improvement.

January-March 1993: **Program Plans and Budget Development and Submission**

Planning: The primary purpose of assessment is to provide academic, student development, and service units with feedback for improvement. So the emphasis in Planning will be on changes within the unit that will improve the work environment and processes.

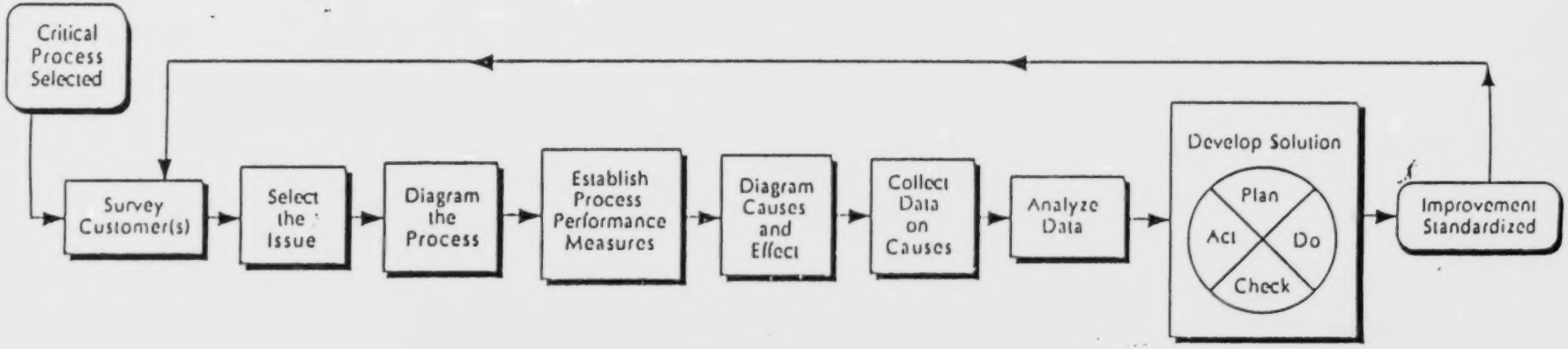
Previous planning or the lack of it left the assumption that programs would operate in future years roughly as they had in previous years. In contrast, 1993-94 plans should reflect how departments or units would utilize resources in light of what they learn from their assessments. That is, alterations in instructional and work patterns and procedures within existing budgets might accomplish significant improvements.

Where assessments reveal weaknesses, program plans should directly deal with them by describing their root causes and proposing improvements. Learning how to identify root causes and developing cost-effective solutions through team problem solving will be the focus of Samford's quality improvement training. Academic departments and administrative units will need training and time to make team-problem-solving their normal way of working together. With time and training, we can look forward to improved program plans.

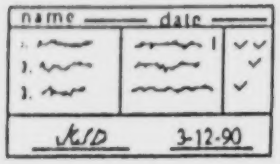
Budget Development & Review: A budget for 1993-94 should reflect a plan that has taken assessments into account. Such a budget will show how the department or unit will deploy funds effectively to fulfill Mission and meet Customer expectations.

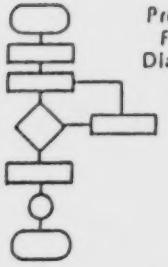
# TOTAL QUALITY CONTROL
## Problem-Solving and Process Improvement Process

| THE PROBLEM | THE PROCESS | THE CAUSE | THE NUMBERS | THE PICTURES | THE SOLUTION | THE FUTURE |
|---|---|---|---|---|---|---|
| Work on the customer's concern. | Map out the current process. | Expand thinking and avoid jumping to cause. | Verify the root cause. | Make a visual picture of the data. | Avoid jumping to a "pet" solution. | Prevent the problem and root cause from recurring. |



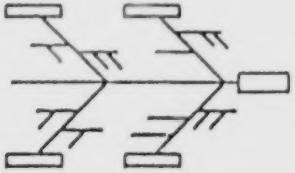

Customer Survey



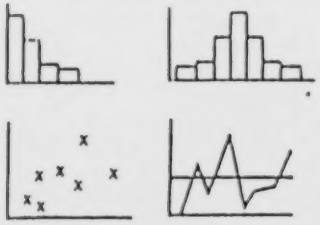



Process Flow Diagram

Fishbone Diagram



Charts and Graphs



Criteria Matrix

| | Sol. 1 | Sol. 2 | Sol. 3 | Sol. 4 |
|---|---|---|---|---|
| must | ✓ | ✓ | ✓ | ✓ |
| must | | ✓ | | ✓ |
| must | ✓ | ✓ | ✓ | ✓ |
| want | ✓ | ✓ | | ✓ |
| want | | ✓ | ✓ | |
| want | | ✓ | ✓ | ✓ |



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SAMFORD UNIVERSITY FACT BOOK

CONSULTANT'S REPORT

The undersigned visited Samford University on January 16, 1992 to further explore mutual interests in the development of a Fact Book to provide reliable measures of Samford's performance in the recently adopted eight critical processes. The visit was coordinated by John Harris along with Laverne Farmer following an earlier, shorter, introductory visit. During that earlier visit, broad outlines of the University's needs and goals were discussed, and a substantial background on TQM and QI, as being introduced at Samford, was provided. This subsequent, day-long visit provided opportunities for discussion with President Corts, Provost Hull and key administrators of the university, many of whom provided material for the first, current Samford University Fact Book.

The following observations are offered as a result of these two visits.

DATA HANDLING

Samford has substantial computing capabilities for the support of academic programs and administration of the University. Information Associates software has been adopted with SIS, FRS, and ADS currently on line, HRS has been purchased but not yet installed. FOCUS has been installed allowing access to essentially all of the University's data sets.

Many institutions have employed FOCUS or similar tools as a means of encouraging administrative units, at all levels, to exercise a greater role in the management of their units. Since the use of statistical information is inherent to QI for improving processes, this is an important incentive for Samford University at this critical, formative time. A note of warning is, however, necessary at this point.

Database management systems are dynamic, files change constantly to reflect current conditions; e.g. the enrollment in a given class, the balance of a particular fund, the encumbrances against a given account. These are essential pieces of information for the *owners* of the data, in the cases here, the Registrar and the Controller. There are others, however, who wish information from the data bases, and are more appropriately classified as *users*. Users generally employ the data for analyses such as those for QI. It is essential that all users of a data base get the same answer to an identical question, even if asked at different times. *They, therefore, should not draw their data from dynamic files*. Z writer does this and there is some suggestion that FOCUS applications at Samford University have been doing this. When

different answers result from a situation like this credibility of the data or the problem solver are unjustly impugned.

To avoid these problems **an extract copy of each data set should be made at a predetermined time for each term and be preserved as the archival record of the University**. Student Records and Academic Services are currently extracting SIS on the last day to drop a class for each term. These are the files that should be made available for general access through FOCUS. When HRS is installed, the payroll and personnel files should be copied at an appropriate time, usually after the second payroll of a given term. These two files may then be jointly extracted to do analyses that relate faculty to class, grades to faculty, or teaching loads to departments, all reports of great use in managing the resources of the University. The files from FRS and ADS are equally important for the archival record. The data in these "frozen files" should become the basis for routine reports describing the University such as the Fact Book, and IPEDS Reports, as well as special, ad hoc analyses.

It is appropriate to mention another related matter at this juncture. It is important that all *owners* of data management systems understand that they are the custodians of the data and that the University is the owner of the data, which is shared with other users. *Owners of systems should not make any changes in their system until there has been complete discussion with all known and potential users of the data.*

INSTITUTIONAL RESEARCH

Among all the users of the data bases of an institution perhaps the most important is the Office of Institutional Research (OIR). That office generally coordinates the submission of all IPEDS and SACS reports and other external requests for descriptive information, prepares the Fact Book, and responds to all requests for ad hoc analyses. In the true planning sense that office should try to be ahead of the administration in identifying problems and opportunities. OIR seldom is a collector of information but generally relies on access to other permanent records of the University for the necessary data. To this end the OIR frequently provides the coordination of all data base management system changes as mentioned earlier.

Stanford University does not have a formal Institutional Research operation, the functions being shared among several offices. Preparation for SACS reaffirmation, with particular regard to Criterion Three (3.2) would suggest that the University consider the early establishment of such an office, reporting at a fairly high level.

THE FACT BOOK

The first Fact Book for Samford University is an impressive first effort. The accomplishment was made possible by compiling individual reports, generated on a common format into a single volume. As might be expected some aspects are covered much more completely than others. The current effort to develop a new Fact Book organized to report performance measures of Samford's eight critical processes, should include much of the same coverage, with additional information specifically related to the processes, and organized accordingly.

Although a great deal of the data for the first Fact Book was extracted from the central, permanent records of the University, much of it is from files maintained remotely on microcomputers. This is a practice routinely encountered in surveying collections of institutional fact books, but as a general rule as much of the institutions permanent record as possible should be stored on the mainframe where it can be routinely backed-up and archival copies made.

Conversations with the staff revealed that few of them had seen the current Fact Book, even though they may have made significant contributions to the final volume. Further conversations revealed that some of the contents may have been viewed as too sensitive for general circulation. This circumstance may, unfortunately, have generated some resentments that will impede progress on the new Fact Book with its innovative linkages to QI. Perhaps sensitive areas could be identified earlier in the future and made the subject of special, ad hoc reports with more limited circulation. Fact Books, by their very nature, are intended to display the facts for wide distribution.

Submitted By

John F. Porter Jr.
22 January 1992

# SAMFORD UNIVERSITY
# FIFTH-YEAR REPORT
# to
# COMMISSION ON COLLEGES
# SOUTHERN ASSOCIATION of COLLEGES and SCHOOLS
# July 1991

## I. CURRENT INSTITUTIONAL PURPOSE AND GOALS

The current official purpose of Samford University as stated in the 1991-92 Samford University Bulletin/Catalog is as follows.

> Samford University exists to serve. As a community of scholars dedicated to the search for truth under the lordship of Jesus Christ, the University is committed to the intellectual, social, spiritual, and physical enrichment of its students. A Samford education encompasses beliefs, causes, and values that determine the quality of life.
>
> Committed to the discovery, preservation, and dissemination of knowledge, Samford University in its undergraduate curricula provides broad based exposure to and experience in the arts and humanities, natural and social sciences, and certain professions. Accordingly, the University intends:
>
> To guide students in the acknowledgement, appreciation, and acceptance of Christian values for personal decision making and the resolutions of the issues of life;
>
> To promote awareness of the sanctity and significance of earth and its resources, the vastness of the universe, and the interdependence of nations and peoples;
>
> To develop the student's ability to communicate and to advocate effectively through written and spoken words and through other symbols;
>
> To cultivate facility in disciplined inquiry, inventive thought, logical and mathematical processes, and scientific observation;
>
> To encourage students to adopt a broadened world view, an integrated concept of human experience, and a wholesome recognition of humanity's cultural, artistic, and aesthetic heritage.
>
> Graduate and professional curricula aim:
>
> To increase the student's skills in researching primary and secondary literature and resources common to the field of study;
>
> To promote concentrated study, description, and analysis in a specialty;
>
> To equip the student for competent, responsible practice in one's chosen field.
>
> Mindful of its Christian responsibility, Baptist relationship, and American heritage, Samford University aspires to motivate each member of the University community to an abundant life of integrity, goodness, and service.

## II. PLANNING AND EVALUATION

### A. CURRENT PROCESS

The administrative leadership has designed and is currently implementing a comprehensive planning-budgeting-evaluation system to link assessment of effectiveness with planning and budgeting. This new system is part of Samford's "continuous quality improvement" thrust which includes a planning process designed to clarify Samford's corporate understanding of our mission, customers,

critical processes, values, and vision. These emerging efforts are described in later sections.

Samford has not had in place a comprehensive system of evaluating achievement of purpose and of relating evaluated results to planning and budgeting. Rather, the current budgeting system operates in typical academic style with continuing operations incrementally funded, for the most part, each new year. (See Appendix A, "Current Budget Process," for more complete description.)

B. PROCESS FOR REFINING PURPOSE AND GOALS

Recently two concurrent and complementary processes have operated for refining institutional purpose and goals: (1) Sesquicentennial Curriculum Renewal, and (2) "Student-First Quality Quest" (S-FQQ).

1. Sesquicentennial Curriculum Renewal

The emphasis of Samford University's Sesquicentennial Year, 1991-92, is curriculum renewal. In response to the President's desire for a review of the curriculum, the Provost initiated in January, 1990, a comprehensive study of Samford's academic program involving twelve Study Groups (described in Appendix B). About 144 members of the Samford faculty, student body, staff, alumni, and other constituency groups were involved in research and analysis in Spring, 1990, with the respective Study Group Leaders writing the actual reports in the Summer, 1990.

Reports were available for review by faculty before the faculty workshop in August, 1990. During the workshop, each Study Group leader presented an oral summary of the respective report and fielded discussion. Faculty had three additional opportunities during the workshop to critique reports through: (1) discussion groups; (2) school based groups; and (3) standing faculty committees. September and October, 1990, Study Group leaders discussed the reports with interested parties. Synthesizing input, leaders met with their respective Study Groups to revise reports. The twelve reports with a summary perspective by the Provost accompany this document.

a. Goals. While all reports dealt with important academic issues, several have direct implications for "refining purpose and goals." The Goals report focused on educational goals for Samford undergraduates. Given the struggles of this Study Group and its resulting report, it became clear that the Samford community, even with relative religious and social agreement, holds broad, difficult-to-assess educational goals.

b. Constituencies. A comprehensive survey was developed and conducted by American College Testing Service of the academic expectations of Samford constituent groups: (1) samples of 1990 freshmen and upper division students; (2) full-time faculty; (3) the board of trustees; (4) samples of parents of 1990 freshmen and upper division students; (5) samples of 1978 and 1988 graduates; (6) sample of Alabama Baptist leaders (ordained ministers); (7) sample of Alabama high school guidance counselors; (8) a national sample of high school students who took the ACT in 1989-90, attaining a composite score of 21 or higher and who identified themselves as Southern Baptists; (9) a sample of parents of students with the specifications as the same group described in 8 (above), though not necessarily the same individual students.

Results of the above survey were summarized in the Constituencies report, shared with faculty and administration, and additionally analyzed on campus by an ACT survey expert. Preliminary analyses make it obvious that disparities exist among faculty, Board, and Alabama Baptist leaders concerning academic standards and their current rigor.

c. General Education. The General Education Study Group recommended a single, interdisciplinary core curriculum, similar in pattern to, but different in

content from, Lynne V. Cheney's 50 Hours: A Core Curriculum for College Students. The result has been to pilot the new core curriculum, beginning Fall, 1991, with participation in the AAC Core Curriculum Project and a Fund for the Improvement of Post Secondary Education grant of about $190,000 for 1991-94. The faculty agreed to support this pilot program, to assess its effectiveness through a quasi-controlled study, and to consider its adoption in light of assessed results. Small faculty teams, whose members were granted partially released time, planned specific syllabi of the pilot program in Spring, 1991, and continued to work this Summer (1991) preparing actual course material for the pilot to begin in August, 1991. Over 130 admitted freshmen applied to enter the pilot, and 75 are being enrolled. The two most interdisciplinary core courses are Cultural Heritages--combining history, literature, and the arts, and Personal Wholeness--combining religion, sociology, psychology, and health. These two courses have stimulated lively debates about what should characterize a Samford-educated person. The general educational aims of Samford are being reshaped along "content" versus "process" dimensions through faculty discussions.

d. Christian University. Other than general education recommendations, no report generated more discussion about Samford's basic purpose than that of the Christian University Study Group. The many facets by which Samford operationally implements its Christian purpose will likely be an ongoing discussion. For example, the Christian emphasis surfaced strongly in the mission and values components of the planning work of the S-FQQ Lead Team (discussed later).

e. Instructional Effectiveness. This study group brought to the fore the Samford faculty's primary academic self identity -- "teaching scholars." While many Samford faculty do significant research and publication, they see their primary function as teaching and the facilitating of student learning. This Study Group called for a major commitment of Samford to assist faculty in improving their teaching by asking for a Center on Teaching Effectiveness. Again a Curriculum Renewal Study Group affirmed a basic commitment of the University.

f. International Studies. The response to the International Studies Report recommendation that Samford become more global and international appears to be almost uniformly affirmed by the faculty.

In summary, the research and interaction of so many members of the Samford community required to develop the twelve Study Reports, followed by detailed presentations, widespread discussions, and action initiatives have all led to healthy dialogue about Samford's most basic social value or its purpose. Furthermore, curriculum renewal surveys, analyses, documents, initiatives, and continuing discussions will provide a useful foundation, particularly in the academic area, for the Self Study to begin in 1994.

2. S-FQQ

President Corts and those who report directly to him function as the Lead Team of Samford's "Student-First Quality Quest" (S-FQQ). They have committed themselves and the University to the following goals:

- Make Samford a nationally recognized learning/teaching university;
- Make continuous quality improvement common practice at Samford University;
- Develop constancy of purpose over time, aligning Samford's operations and results with its mission;
- Demonstrate to the national higher education community the power of the quality paradigm to improve academic praxis;
- Measure ourselves against the Malcolm Baldrige National Quality Award in 1991 (Note: At present, there is no Baldrige Award competition for non-profit institutions such as universities.);

- Be a model of "institutional effectiveness" in the 1996 reaffirmation of accreditation by the Commission on Colleges, SACS.

The administrative leadership believes the principles of institutional effectiveness and continuous quality working together provide the most over-arching strategy for Samford's optimal achievement. "Institutional effectiveness" is the most appropriate measure of quality for Samford because of its commitment to "service." Samford's quality, consistent with its values, should be judged more by the effects of its service than by richness of resources or prestige.

The new paradigm of quality, emphasizing improvement processes through measures of results, is consistent with Samford's basic mission and values and Section III criteria. It unites the scientific approach in seeking and verifying sources of problems, with the artistry of people working together to develop solutions. Leaders become facilitating servants driving out fear to allow originality and talent to flower.

Therefore our organizational goal is:

To optimize Samford's effectiveness by infusing, in a Christian manner, the theory, ethic, and practice of continuous quality improvement into every function of Samford University.

a. Key Concepts from Seven Baldrige Guidelines. The Samford leadership is committed to integrating the new principles of Section III of the Criteria and the seven categories of the guidelines of the Malcolm Baldrige National Quality Award into the leadership and management of Samford University. The Baldrige guidelines are briefly reviewed below to demonstrate their congruence with Section III:

The organization's leadership develops "a clear and visible quality value system" supported by a "management system" that guides all of the organization's efforts toward "quality excellence." Information and analysis informs the organization's "total quality management system." "Strategic Quality Planning" works to develop "quality leadership" and to integrate "quality improvement planning" into the organization's total planning effort. "Human Resource Utilization" develops the "full potential" of the organization's people and provides "an environment conducive to full participation, quality leadership, and personal and organizational growth." "Quality Assurance of Products and Services" focuses on designing and controlling processes. "Quality Results" are judged by how well they meet customer needs and expectations and from analysis of the organization's operations. In "Customer Satisfaction," the organization displays a deep knowledge of customer needs and demonstrates ability and inclination to respond to customer needs.

b. Quality Improvement Work To Date. Our aspirations to fulfill Section III criteria and the principles of the Baldrige Award have been informed by almost two years of experience with both. Major events in these last two years are described below:

August 1989: The Office of Quality Assessment was established with John Harris to initiate and facilitate assessment of institutional effectiveness and total quality management. Harris brought with him a sub-contract on a FIPSE grant with Dr. Trudy Banta, UT-Knoxville, to describe the application of Deming's quality improvement to higher education. Dr. David Sylwester, Head of the Statistics Department, UT-Knoxville, became co-principle investigator on this project. It should be noted that Dr. Banta comes to this campus often to discuss the interaction of assessment and quality improvement.

November 1989: A conference in the School of Pharmacy "Quality Improvement in Higher Education," was sponsored by The American Association of Colleges of Pharmacy. In addition to Pharmacy faculty and

administration, this conference provided Samford's administrative leadership and a cross section of faculty an overview of business and industry's quality improvement principles as they may be adapted to higher education.

President Corts committed himself and Samford to learning more about quality improvement and adopting it as Samford's leadership and management paradigm.

January 1990: President's Lead Team for Student-First Quality Quest was identified.

February-June 1990: Each month in this period, the President's Lead Team was involved in an on-campus, QI-training seminar or an off-campus site visit. These orientation-training events began with a two day seminar on the Samford campus with the administrative leadership of the University of Minnesota-Duluth, the Baptist Medical Center (BMC) Birmingham, and Samford University. The seminar presentations were a combination of CEO's leading QI in their organizations, QI and statistical consultants, and administrators at UM-Duluth, BMC, and Samford. Dr. David Sylwester conducted a full day of training in statistical thinking with the President's Lead Team. Dr. Edwin Coate, Vice President for Administration, Oregon State University, came to advise the President's Lead Team on how to get started, given his experience at OSU. Dr. Coate's visit was especially helpful in two ways: (1) Drew our attention to an aspect of QI with which we were not well acquainted--quality planning; (2) Led us to a splendid consultant-trainer on quality planning. The Lead Team made site visits to two companies noted for their QI efforts: (1) West Paces Ferry Hospital in Atlanta, a part of Hospital Corporation of America; (2) Milliken Company headquarters at Spartanburg, SC, a Malcolm Baldrige National Quality Award winner.

July 1990: One week of continuous training in planning and first efforts at describing Samford's Mission-Customers-Critical Processes-Values-Vision (M-C-P-V-V) led by Dr. Catherine Collett, formerly Hewlett-Packard Corporation's quality improvement leader, and now an independent consultant on quality improvement focusing on educational and service organizations....(The President's Lead Team continued to work on Samford's M-C-P-V-V during Fall, 1990 and Winter-Spring, 1991.)

September 1990: President Corts presented at an assembly of Samford faculty and staff, about 700 persons, his sense of Samford's mission, informed by the July planning session, and his long term commitment to infusing continuous quality improvement into the fabric of Samford University.

Fall 1990 - Spring 1991:

1) S-FQQ General Orientation and Training: Fall, Winter, and Spring orientation and training sessions on the basic principles and techniques of quality improvement were conducted for deans, associate and assistant deans, department heads, non-academic administrators, and selected faculty. Near the end of each session, members of the Lead Team discussed the evolving statements of Mission, Customers, Critical Processes, Values, and Vision. (See Appendix C, "S-FQQ Spring Training," for an outline of topics and time involved.)
2) OTIS SYSTEM: As part of S-FQQ, a suggestion system open to students, faculty and staff called OTIS (Opportunity To Improve Samford) was begun in September with an Assistant to the President functioning as an Ombudsman. More recently, a second opportunity more focused on complaints has been added--SO-AS (Sound Off About Samford). To date, 286 OTIS or SO-AS forms have been received; and 278 responded to by relevant administrators. In six (6) cases the issues were so broad that

University-wide cross functional teams were established to deal with the suggestions. (These teams are named in the next section. Copies of the OTIS and SO-AS forms constitute Appendix D.)

3) S-FQQ Teams: Teamwork is basic to quality improvement efforts. Beginning Fall, 1990, four Within-Work Group Teams were begun: Physical Plant Supervisors, Music Faculty, Admissions Staff, Custodial Supervisors. Seven Cross-Functional Teams were begun; six stimulated by suggestions from the OTIS system. Topics included: energy conservation, recycling, campus mailing, copiers and FAX's, electronic data transfer, and a Samford debit and all-purpose card. A seventh Cross-Functional Team was established to examine the entire Freshman Year Experience as to its effectiveness in meeting the needs and expectations of the Samford freshman.
4) Conference on "Deming-style Quality in Higher Education": The content of this conference, that included more than 100 participants from colleges and universities across the nation, can be reviewed from a copy of the program (Appendix E).

Summer 1991:

1) Integrated Assessment, Planning, and Budgeting, and Quality Improvement plan and organization. The Assistant to the President for Management and Budget and the Assistant to the Provost for Quality Assessment have worked with the President's Lead Team to develop this integrated plan to serve as Samford's Fifth-Year Report.
2) "Governor's Conference on Quality Improvement in K-12 Education." Dr. Julian Prince, Dean, Orlean Bullard Beeson School of Education, has developed through the Samford Foundation this conference for Alabama school administrators for August 6-7. Among the speakers is Dr. Herbert Walberg who chairs the International Educational Indicators Project of the Organization for Economic Cooperation and Development, Paris, France. The GOAL/QPC non-profit QI consulting firm in Massachusetts, through their educational specialist Dr. Diane Ritter, has assisted Dean Prince in designing this conference. Dr. Ritter will also be a presenter.
3) M-C-P-V-V Planning. The President's Lead Team continued to work on Samford's M-C-P-V-V during the Fall, 1990 and Winter-Spring, 1991. This year of Lead Team planning will reach a point of passage August 27-29, 1991, with Dr. Collett's return for three days work with the Lead Team to assist it in drawing together its year's work on M-C-P-V-V. The week prior (August 19-23) to Dr. Collett's visit, the Lead Team's 1990-91 work on M-C-P-V-V will be discussed with full-time faculty at the annual Faculty Workshop and faculty input will be requested. This input will then be used during the Lead Team's discussion the following week, August 27-29.
   The refined M-C-P-V-V will be deployed through the Samford academic and administrative structure in a "relay" fashion to facilitate internal alignment on M-C-P-V-V and to provide a context for planning and budgeting, assessment, and S-FQQ.
4) Quality Planning Tools Training. While Dr. Collett is at Samford to facilitate further work by the President's Lead Team on M-C-P-V-V, she will also provide three half days of training in quality planning tools to about 30 Samford faculty and administrators. The next phase of S-FQQ at Samford will require more quality teams. In each school and administrative division, QI trainer-facilitators will be identified and trained to coach and facilitate those teams. While many of these trainer-facilitators have already been trained in the group processes

and statistical tools of process improvement, they need these additional quality planning tools.

5) Dr. David Sylwester and Dr. John Harris are completing their FIPSE report on the application of Deming QI to higher education. Furthermore, most of the Samford FIPSE sub-contract funds have been allocated to reimburse 15 authors for writing brief articles on applications of QI to academic processes. For example, a Samford biologist is writing about QI in teaching anatomy and physiology. A University of Alabama engineering professor is focusing on the QI principle of customer orientation in preparing research papers for publications. Peter Ewell is writing a paper about the contribution of longitudinal student tracking to QI.

c. Planning and Purpose and Goals. As seen above, the quality planning effort that got under way in July, 1990, directly relates to refining purpose and goals. At this point (July, 1991) in the process, the President's version of the Mission statement is still in process:

> The mission of Samford University is to nurture persons, offering learning experiences and relationships within a Christian community, so that each may achieve optimal personal fulfillment, academic or career competency, social responsibility and spiritual strength -- and continuously to improve the University's effectiveness and quality so as to be valued by the public.

It should be noted that the motto for the Sesquicentennial -- "FOR GOD, FOR LEARNING, FOREVER" -- was developed at the time of the Lead Team's first work-session with Dr. Collett in July, 1990. In fact, the first discussion of it by the administrative leadership was in that session.

While all internal and external "Customers" are yet to be identified, it is clear from the title of Samford's quality effort, "Student-First Quality Quest," that students are the prime Customers. Customers are being defined as:

> The customers of Samford University are those persons who enter into transactions with Samford University, or who potentially may do so, or who benefit from the opportunities which it offers, or who have a personal interest or "stake" in Samford University; and/or who have the capacity to have significant impact upon the University.

The Lead Team seems relatively agreed on eight Critical Processes that must be managed across all areas of the University if it is to fulfill its mission to its customers: (1) learning; (2) enrollment management; (3) fund raising; (4) planning; (5) faculty/staff recruitment and development; (6) environment management; (7) marketing; and (8) compliance with standards and regulations.

While still in flux, as are all components, the Values statement is at this point:

> The values of Samford University are guided by a commitment to the moral and ethical standard of Jesus Christ and the quest for the fullness of truth that nurtures integrity, sensitivity, and growth.

Finally, the vision of Samford in its present form is:

> The vision of Samford University is to become exceptionally effective, widely known, recognized and valued for what it should be: a distinctive Christian university, as acknowledged for its thoughtful Christian emphasis and for its high quality of learning, within a non-elitist community.

## III. PROCESS INCORPORATING EVALUATION RESULTS INTO PLANNING

Samford is implementing a systematic planning-budgeting-evaluation process, incorporating evaluation of institutional effectiveness and continuous

quality improvement. The entire process should be fully operational by November, 1994. Building on the work completed in curriculum renewal and S-FQQ, two new committees will be operating to meet this target: (1) Quality Council, and (2) Assessment, Planning and Budgeting Panel.

A. CONTEXT

For all elements to interface effectively, the University's mission-customers-processes-values-vision must be internally aligned. It involves the President's Quality Council moving its version of Samford's M-C-P-V-V to the Assessment, Planning and Budgeting Panel (AP&BP) asking them for (1) comments back to the Council on its version of M-C-P-V-V; (2) comments on the application of M-C-P-V-V to the work of the various departments of the University. Following these actions, the major division heads will share the M-C-P-V-V within their division with the intended outcome of widely shared understanding and translation of what Samford should be when it is focused.

While setting and maintaining such a corporate culture is a never-ending process, the intention is to initiate the "relay" process in Fall, 1991, so that members of the Samford community develop a similar frame of reference and language for the new system of assessing, planning, and budgeting and an amplified S-FQQ.

B. ASSESSING, PLANNING, AND BUDGETING

A new system of assessing, planning, and budgeting is being initiated by the President's Lead Team, re-constituted as the Quality Council. The Quality Council will develop a broad scope for long range planning developing specific procedures and forms for both one and five-year operational plans and budgets. Following a review from the AP&BP, the system will engage every unit in planning its operations and budgets and will work its way back up the administrative structure with the assistance of the planning officer at each critical stage. Eventually, the Quality Council will prepare a summary plan and budget for the Assessment, Planning and Budgeting Panel to review. A comprehensive plan and budget will be presented to the President who will propose the operating plan and budget to the Board of Trustees. It is important to note that when the assessment plan is fully operational, its results are fed into the planning and budgeting system through the Quality Council.

C. ASSESSMENT OF INSTITUTIONAL EFFECTIVENESS

The Quality Council will develop policy for assessing institutional effectiveness as it develops a broad scope for assessing, planning, and budgeting. Because the approaches and techniques of assessing academic and administrative functions are quite different, two different assessment systems will be operated.

1. Academic Assessment

In academic assessment, evaluation is based on four major assessments: (1) program quality and productivity; (2) student competencies -- a) general education and b) academic major and graduate or professional specialty; (3) instructional effectiveness; and (4) organizational and managerial effectiveness. Assessments take into account the mission, customers, processes, values, and vision of the particular school or department. For example, the curriculum for a given major should be assessed against national standards, Samford's mission, and customers' needs and satisfaction.

The Provost, working with the Assessment Officer, will produce the general Academic Assessment Plan, utilizing the four components described above within the context of Samford's M-C-P-V-V. Each dean will produce a School Assessment Plan which in turn will guide program or departmental faculties to produce annual

department assessments based on: (1) assessment of seniors' exit competencies; (2) student evaluations of instruction; (3) faculty and staff evaluations of heads and deans; and (4) follow-up surveys of graduates.

Every fifth year, each department or school will report the results of a national peer review. In cases where there are periodic, external accreditation reviews of professional schools, such accreditation reports will serve the purpose of one fifth-year review in a ten year cycle. But such an accreditation review in one year will be followed by a national peer review five years later.

Annual school assessments and fifth-year national peer reviews or accreditation reports will be sent concurrently to the Provost and the Assessment Officer for comments. Both the Provost and the Assessment Officer will forward the school assessments to the Assessing, Planning and Budgeting Panel who in turn will review and submit it to the Quality Council which will add any comments or instructions it sees fit. Thus a feedback loop is closed between assessment of the effectiveness of planning and budgeting in the academic sphere of the University.

2. Administrative Assessment

As indicated above, administrative (non-teaching areas) assessment will be based primarily on: (1) measures of fulfillment of mission; (2) meeting customer needs and expectations; (3) reduction of process errors and variation; (4) consistency with values; and (5) contribution to the shared vision. Respective division heads will develop guidelines, propose instruments, and provide formats for annual M-C-P-V-V reports in consultation with the Assessment Officer. The Quality Council will appoint a Quality Improvement Audit Group each year to review the M-C-P-V-V reports and conduct on-site reviews as deemed necessary. These audits, along with the M-C-P-V-V reports, will be sent to the respective division head. Each division head will send the M-C-P-V-V reports, quality audits, and any comments to the Assessing, Planning and Budgeting Panel, which after review, will send them directly to the Quality Council. Thus the feedback loop, as in the case of academic assessment, is closed between planning, budgeting, and assessment.

D. SAMFORD'S STUDENT-FIRST QUALITY QUEST

The comprehensive planning, budgeting, and assessment of institutional effectiveness described earlier will be most effective and supported when buttressed by shared values, team spirit, and statistical thinking and tools inherent in continuous quality improvement. S-FQQ represents a determined effort to infuse the Samford culture with the following quality improvement commitments and principles: (1) concern for customer needs and expectations; (2) constancy of purpose through internal alignment; (3) servant leadership that facilitates, supports, empowers, and encourages; (4) statistical thinking to distinguish common from special causes of variation; and (5) continuous improvement of all processes through the empowered persons closest to them.

To play its full role, S-FQQ will have three functions: (1) facilitate internal alignment of mission-customers-processes-values-vision; (2) orient, train, and facilitate cross functional teams authorized by the Quality Council to work on major breakthrough possibilities; and (3) train and support school-based and administrative unit trainers and facilitators supporting within work group, S-FQQ teams.

E. SAMFORD BOARD OF VISITORS

President Corts will nominate and the Samford Board of Trustees will name a Board of Visitors to provide annual, external evaluation and advice on Samford's progress in meeting SACS institutional effectiveness criteria and Baldrige Application guidelines. This Board of Visitors will be composed of nationally

recognized scholars and experts in Christian higher education, academic quality, institutional research, institutional effectiveness, and quality improvement.

F. ORGANIZATION AND STAFFING OF QUALITY COUNCIL AND ASSESSMENT, PLANNING AND BUDGETING PANEL AND S-FQQ

While the new planning and budgeting system, the assessment of academic and administrative areas' effectiveness, and S-FQQ involve everyone, primary responsibility rests upon two groups and four support functions. The two groups are: (1) Quality Council, and (2) Assessing, Planning and Budgeting Panel.

# APPENDICES A-G

## SAMFORD UNIVERSITY

Fifth-Year Report
to
Commission on Colleges

Southern Association of Colleges and Schools

July 1991

# APPENDIX
# A

# Current Budget Process

Laverne Farmer
Assistant to President for Management & Budget

July 1991

During September each year the Budget Office evaluates the University's fall enrollment and makes projections for the Jan Term and Spring enrollments based upon the present fall enrollment. At this time, if enrollment appears to increase or decrease, recommendations for budget changes are made to the President who determines whether or not to make recommended budget changes to the Board of Trustees.

Following the September/Fall enrollment evaluation and based on historical data in cooperation with the Admissions office, projections are made for the following fall's enrollment along with the Jan Term, Spring term and Summer term. Revenue budgets are then generated and sent to each Budget Unit Head who is responsible for the generating of revenue and is asked to project the following year's revenue. These are returned to the Budget Office during the month of November, at which time the Budget Office summarizes the projected revenues including proposed tuition and fee increases for the University for the following year.

During the latter part of November, the Budget Office collects all of the mandatory increases which would be necessary for the following year in expenditures, such as scholarship increases and increases in Debt Service, etc. In addition, the Budget Office submits any special funding requests by the various departments throughout the University to the President and Vice Presidents to determine if any of these new programs are to be funded during the following year's budget.

The increased revenues over the present year are determined; from this increased revenue, all mandatory increases in expenditures for the following year as well as the funding of any new programs are subtracted giving a net increase in revenues for the following year.

In early December, all the expenditure budgets are given to the Vice Presidents with their increased funding allotments. The Vice Presidents determine how they will disburse their allotments to the various budget units. In February, all the Budget Unit Heads return their expenditure budgets to the Vice Presidents who, in turn, determine if they have submitted the budgets within the guidelines and the funding allotments as directed by the Vice Presidents. The Vice Presidents then return these at the end of February to the Budget Office which summarizes the University's expenditure budget requests.

The Budget Office then prepares a summarized budget of revenues versus expenditures for the President; the President then submits to the Board of Trustees the University's budget for the following year in March.

# APPENDIX
# B

Fourth Draft:
2-1-90

# "LEARNING FOR LIFE": TOWARD A SESQUICENTENNIAL CURRICULUM

Samford University, Birmingham, AL
William E. Hull, Provost

## I. Approach

A comprehensive review of the Samford curriculum is being undertaken as a major contribution to that academic renewal by which the faculty responds to the sesquicentennial of the University in 1991-92. This revision process may be envisioned as taking place in four stages which are largely sequential but partly simultaneous. Stated in logical progression, they are:

(1) Orientation - A careful analysis of the context in which this reexamination takes place.

(2) Conceptualization - A fresh re-visioning of the major content areas of the curriculum.

(3) Differentiation - An effort to define those contours of the curriculum which are distinctive to Samford.

(4) Implementation - An identification of the components needed to facilitate the offering of the refashioned curriculum.

Listed below in summary fashion are the main agenda elements which comprise each of these four areas of investigation.

I. Curricular Data

1. Status: The current curriculum at SU. Goals, objectives, and requirements of each program of instruction, as well as the prerequisites and special requirements of each professional school. Identification of omissions, discrepancies, or deficiencies in the present curriculum.

2. Goals: The learning outcomes desired by SU in light of its statement of purpose. The controlling vision of what the faculty hopes to achieve in the lives of its students as it fulfills the mission of the institution. A projection of significant changes likely to come during the lifetime of the current student generation together with an assessment of competencies needed for life in the twenty-first century.

3. Constituencies: The needs and expectations of those whom SU intends to serve, as determined by careful surveys of representative external groups such as alumni, employers, parents, and denominational representatives; plus internal groups such as trustees, faculty, and students. A resulting profile both of the type students SU desires to attract and

of the type faculty needed to teach such students.

II. Curricular Design

1. General Education: An identification of the knowledge, competencies, and attitudes essential for an educated person in tomorrow's world together with a definition of an integrated sequence of studies that will provide this foundation for further study. Clarification of the readiness levels required to begin this core and of the remedial work indicated for those who fall below such a threshold, together with a plan for offering this remedial work to rising or graduating high school seniors and to college freshmen.

2. The Major/Concentration: Defining readiness to begin undergraduate specialization. Assuring coherent structure and effective learning sequence in one or more chosen emphases. The relation of major(s) and minor(s) both to the liberal arts emphasis in the core curriculum and to career preparation, with special attention to pre-professional and pre-graduate program articulation.

3. Honors Program: Identifying those enrichment features which enhance accelerated learning on the part of gifted students. Defining how to locate, recruit, and challenge the exceptional learner, as well as how to identify, train, and facilitate the exceptional faculty with gifts for guiding such students.

III. Curricular Dimensions

1. Student Development: Setting up and maintaining an advising system that maximizes the potential of every student. Devising a retention program that not only manages enrollment but also conserves the long-term investment of SU in students. Exploring ways to make campus life, especially service activities, part of an integrated learning experience.

2. International Studies: Finding ways to emphasize a global perspective in the entire curriculum and to enhance that world awareness by increased opportunities for learning in a variety of cultural settings.

3. Christian University: Studying what it means to be a Christian University in all areas of the curriculum, including a strategy for addressing issues of spiritual commitments and moral values raised by the human condition in contemporary life.

IV. Curricular Devices

1. Instructional Effectiveness: A plan for training faculty in pedagogical skills as required by the new curriculum and by the valid expectations of students. An examination of effective methodologies for course preparation, teaching procedures, and testing techniques.

2. Support Services: Achieving information literacy through the integration of library resources and services, audio-visual learning aids, equipment and training in academic computing, new configurations and furnishings for classrooms, laboratories, and clinical/studio settings.

3. Assessment: Evaluating the outcomes of the instructional process and utilizing such findings as a means of continuously improving that process. Recommending definable indices of academic quality and instituting an adequate data base for monitoring the progress of every student.

## II. Organization

A collaborative committee structure will provide the basic framework for investigating all aspects of the proposed Sesquicentennial Curriculum. Each of the twelve areas identified above will be assigned to an ad hoc study group consisting, as available, of the following members: faculty (preferably including one or more representatives of the University Curriculum Committee), administrative staff, students, alumni, trustees, and appropriate technical consultants and community resource persons.

The chairpersons of these twelve study groups will together constitute a Steering Committee to correlate the entire curricular renewal effort and achieve a measure of synergism between the separate study groups. As proposals are developed, they will be reviewed by the Steering Committee and then go to the University Curriculum Committee for approval and recommendation to the faculty.

Administrative staff support to all aspects of the study will be provided by the Assessment Office, including: securing needed reference materials, scheduling visits by educational consultants, arranging for travel to conferences or other campuses, providing word processing for reports, and managing the project budgets. The Assistant to the Provost for Quality Assessment will offer guidance in all areas requested, and the Provost will be available for consultation as needed.

## III. Schedule

Following a year of general preparation in 1988-89, which included a faculty study and vote to make a major restudy of the curriculum, plus the establishment of the Assessment Office to assist in this regard, it

is hoped that the study can be completed in two years so that the new curriculum may be launched in the 1991-92 sesquicentennial year and fully implemented during 1991-1995. A projected timetable is as follows:

Fall, 1989 - Define and organize the task, recruit all study groups, secure needed funding, assemble relevant resources.

Spring, 1990 - Study assigned agenda, complete reading and correspondence, visits by consultants, travel to other campuses, and discussion of relevant options.

Summer, 1990 - Prepare preliminary reports on each aspect of the study by August 1 in time for review by the faculty prior to the Pre-School Workshop.

Fall, 1990 - Based on thorough discussion of all reports at the Pre-School Workshop, revise all proposals as needed for further consideration and adoption by the Faculty.

Spring, 1991 - Prepare new Catalog copy, registration schedules, brochures and other needed academic documents relating to the revised curriculum. Recruit faculty needed to begin offering the first year of the sesquicentennial curriculum in 1991-92.

Summer, 1991 - Convene faculty work groups to complete preparation of new courses in the first year of the new curriculum. Assemble needed library materials, teaching aids, and classroom/laboratory facilities.

# APPENDIX
# C

7/15/91

# Schedule
## S-FQQ Management Training
## Spring (Feb. 14, 1991-Mar. 28, 1991)

| Topic/Date | Assignment | Activities | Presenters |
|---|---|---|---|
| Orientation/Planning<br>Feb. 14 (8:30-10:00 am) | None | S-FQQ Plan<br>Training Plan | Thomas E. Corts<br>John Harris |
| Basic Concepts<br>Feb. 20 (7:45-10:00 am) | The Deming Route to Quality and Productivity by William W. Scherkenbach | 1. "Discovering the Future: The Business Paradigm"<br>2. Discussion of Deming's 14 Points<br>3. S-FQQ Plan | Joel Barker-video<br>John Harris<br>John Harris |
| | Quality Assurance for Private Career Schools by J. Harris, S. Hillenmeyer, & J. Foran, 4-20, 51-60. | | |
| | "Key Concepts Of Quality Improvement For Higher Education" by John Harris | (Tab 18) | John Harris |

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| | | | |
|---|---|---|---|
| Statistical Thinking & Tools<br>Feb. 25 (9:00-12:00 am) and (1:30-4:30 pm) | Team Handbook by Peter R. Scholtes (pp. 2-17 to 2-46)<br><br>"Understanding Variation" by T.W. Nolan & L. P. Provost<br>Quality Progress, May 1990, 70-78<br><br>"The Tools of Quality: Pt. I: Going with the Flow (Chart)"<br>Quality Progress, June 1990, 64-67<br><br>Juran On Planning For Quality (pp. 18-20)<br><br>"The Tools of Quality: Pt. II: Cause-and-Effect Diagrams"<br>Quality Progress, July 1990, 59-62<br><br>"The Tools of Quality: Pt. III: Control Chart"<br>Quality Progress, August 1990, 79-82<br><br>"The Tools of Quality: Pt. IV: Histograms"<br>Quality Progress, September 1990, 75-78 | Workshop | David Sylwester (Assisted by Jan Case & Mary Hudson) |

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"The Tools of Quality: Pt. V: Check Sheets" Quality Progress, October 1990, 51-56

"Statistical Concepts and Tools To Support QIP" by David Sylwester (Bring a calculator capable of producing square roots)

| | | | |
|---|---|---|---|
| Tools--"Show & Tell" Mar. 6 (9:00 a.m.-12:30 p.m.) | Cause-and Effect Diagram (Group developed)<br><br>Data collected by Check Sheets<br><br>Data analyzed by Pareto charts<br>Optional: Control chart & Scatter diagram | Presentation & Discussion of C&E Diagrams, Check Sheets<br><br>Pareto charts, Control charts & Scatter diagrams | David Sylwester (Assisted by Jan Case and Mary Hudson) |
| QI Field Trip Mar. 11 (8:00 am-6:00 pm) | Quality Improvement in Action | Milliken Plant LaGrange, Georgia | Bill Hogg |
| Quality Teams Mar. 12 (7:45-11:00 am) | "Total Quality Control: Problem Solving for Teams and Individuals" by Joann DeMott and Steve Yarrow | "Walk-thru of Basic Team Functions" based on the assignment materials | John Harris |

7/15/91

| | | | |
|---|---|---|---|
| | The Team Handbook by Peter R. Scholtes<br>Chapters: 1, 3-7 | Preview of Slide/Tape Training Materials | |
| Quality at SU<br>Mar. 22 (7:45-11:30 am) | "Managing Quality in Higher Education" by Daniel Seymour | | |
| | "From One Customer To Another" by Thomas E. Corts | S-FQQ Customer Orientation | Thomas E. Corts |
| | "Leadership For Quality Improvement" by William E. Hull | S-FQQ Leadership Paradigm | William E. Hull |
| | Emerging S-FQQ Planning<br>1. Mission<br>2. Customers<br>3. Processes<br>4. Values<br>5. Vision | Samford's Emerging Quality Plan | Thomas E. Corts<br>William E. Hull |
| Commencement<br>Mar. 28 (12:00-1:30 pm) | "What I have learned." (2 minute statements) | Presentation of S-FQQ | S-FQQ Learners<br>Thomas E. Corts |

Total Hours: 22:45

# APPENDIX
# D

# OPPORTUNITY TO IMPROVE SAMFORD (OTIS)

Samford University needs input from every member of the University community. Please express your view on any aspect of the University that can help us seize an opportunity (A) or surmount an obstacle (B). Your ideas may impact you, personally, or some other person or element of the University. Please use A or B below to share your thoughts. If you have a question, please call Dan Stone at 870-2375.

| Submitted By:<br>Phone No:<br>Campus Mail Address:<br>(Please retain copy; original to OMBUDSMAN) | Date: |
|---|---|

A. Opportunity to be seized:

B. Obstacle to be overcome:

In light of A or B above, my recommendation is:

Send to: OMBUDSMAN
Samford University
207 Samford Hall
Birmingham, AL 35229

Every OTIS is guaranteed a response within 30 days!

# SOUND OFF ABOUT SAMFORD (SO-AS)

The President asked the University Ombudsman to promote a user-friendly environment at Samford. Please use this form to tell me of a problem or concern. I will seek "to cut red-tape" and give you a response. Together, we may reduce some hassle, clear up potential problems, and allow you to accomplish your reason for being here.

**PLEASE DISCUSS ONLY ONE CONCERN ON THIS FORM**

Submitted By: Date:
Phone No:
Campus Mail Address:
(Original to OMBUDSMAN; retain copy)

Send To: OMBUDSMAN
Samford University
207 Samford Hall
Birmingham, AL 35229

I am a:

☐ Student ☐ Faculty/Dean ☐ Administration/Staff ☐ Other

OBSTACLE TO BE OVERCOME:

MY RECOMMENDATION FOR A SOLUTION IS:

Every SO-AS is guaranteed a response as soon as possible or within 30 days!

# APPENDIX
# E

*Samford University*
*presents a*
*Conference on Quality Improvement*
*for college presidents,*
*key members of governing boards and*
*senior academic officers*

---

*APRIL 24,25, 1991*
*BIRMINGHAM, ALABAMA*

uality . . . W. Edwards Deming . . . Japanese-style quality circles. The names and terms associated with the new global, quality consciousness, are many and varied.

This conference is designed to provide senior higher education executives and board members the basic tenets of Deming-style, "Continuous Quality Improvement." The conference will acquaint participants with fundamentals of the quality movement as first applied to industry, as now being applied in human service contexts such as hospitals, and presently to colleges and universities.

Relevant information regarding the quality improvement movement as it pertains directly to higher education has been difficult to obtain. This conference will provide you a context for assessing the application of this exciting approach in your institution.

The conference format will allow for lively interaction between participants and presenters. You will gain much through sharing experiences with peers who have a common interest in the quality movement.

Samford University has been awakened to a new sense of customer focused service – from operations to the classroom – by our involvement in the Deming-style continuous quality improvement process. We are anxious to assist in the development of a "users group" of like minded institutions throughout higher education.

Come join us!

Thomas E. Corts
*President*
*Samford University*

P.S. *Dr. Deming says, "quality must begin at the TOP of an organization." That is why this conference is for YOU.*

# PROGRAM

## Wednesday, April 24

7:00 p.m. **Dinner** – Harbert Center

**Baldrige Award 1990 Video**

**Keynote Speaker: Rosetta Riley, Director of Customer Satisfaction, Cadillac Motor Car Division – "Cadillac: The Quality Story" 1990 Winner – The Malcolm Baldrige National Quality Award**

## Thursday, April 25

8:00 a.m. **Continental Breakfast** – Rotunda Club

8:30-9:00 a.m. **"How a University President came to be Interested in the Continuous Quality Improvement Concept"** – Thomas E. Corts, *President – Samford University*

9:00-9:30 a.m. **"Quality Improvement in American Industries"** – Curt Reimann, *Director, Malcolm Baldrige National Quality Award*

9:30-10:00 a.m. **"The Practical Side of Deming: Our Experience at OSU"** – L. Edwin Coate, *Vice President for Finance and Administration, Oregon State University*

10:00-10:15 a.m. **Break** – Ingalls Hall Foyer

10:15-11:00 a.m. **"The Basic Statistical Tools of Quality Improvement"** – David Sylwester, *Chair, Department of Statistics, University of Tennessee, Knoxville*

11:00-11:30 a.m. **An SU Quality Team Presentation** – Quality Improvement at Work at Samford University

11:30-12:00 noon **"How Quality Improvement Teams Differ From Committees: The Fundamentals of QI Teams"** – Susan Hilienmeyer, *Belmont College Quality Coach*

12:15-1:00 p.m. **Lunch** – The Flag Colonnade

1:15-2:00 p.m. **"Quality Improvement in Service Organizations: No, It's not the same as making autos!"** – Catherine Collett, *QI Consultant – Collett & Associates*

2:00-2:30 p.m. **"The Quality Improvement Paradigm and Academic Praxis"** – William E. Hull, *Provost, Samford University*

2:30-2:45 p.m. **Break** – Ingalls Hall Foyer

2:45-3:00 p.m. **Suggested Readings:** – John Harris, *Assistant to the Provost for Assessment and Quality Improvement, Samford University*

3:00-4:30 p.m. **"If I'm interested, how do I prepare myself and my college or university for infusing continuous quality improvement into our processes?" Panel for Q&A:** Thomas E. Corts, L. Edwin Coate, David Sylwester, Susan Hillenmeyer, Catherine Collett, William E. Hull

# REGISTRATION FACTS

(A complete Registration Packet will be be forwarded on request.)

## Conference Fee

The Conference fee is $175 for ONE person, $300 for TWO, or $425 for THREE from the same institution. You are encouraged to attend as a team of senior executives, i.e., president, key member(s) of governing board, chief academic officer. **Conference enrollment is limited to 100 registrants; please act promptly.**

## Included in Conference Fee

**Meals** – Wednesday evening opening dinner at the Harbert Center in Birmingham's City Center; on Thursday a continental breakfast in the Rotunda Club and luncheon in the Flag Colonnade Room on Samford's campus.
**Conference Notebook** – A notebook with texts of all presentations, "hand-outs" and visuals pertaining to the conference.
**Hotel to Meetings Transportation** – A round-trip shuttle service will be available from conference hotels (3 choices) to the Wednesday evening opening dinner in City Center and to Samford's campus for Thursday's sessions.

## Housing

Special rates have been arranged at three hotels convenient to the Samford University campus. Rates will range from $45-85 for a single or double room. Hotel reservation forms will be included in the Registration Packet.

## Transportation

Birmingham is fortunate to have easy access by air and Interstate routes. Arrangements for special air fares have been made through American Group Travel. Please contact them directly at 1-800-777-0067. You will be responsible for transportation between the airport and your hotel (check hotel information regarding their shuttle services).

## Questions?

A toll-free telephone number has been established to facilitate communication regarding the conference. Just call 1-800-522-1991 and ask for "Quality."

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1841-42 1991-92
SAMFORD UNIVERSITY
SESQUICENTENNIAL

*This conference is one of many celebrations being hosted by Samford University in recognition of its Sesquicentennial year, 1991-1992.*

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## INFORMATION REQUEST CARD

Name _____

Title _____

Institution _____

Address _____

City _____ State _____ Zip _____

Phone ( ) _____

Samford University is an Equal Opportunity Institution and welcomes applications for employment and educational programs from all individuals regardless of race, color, sex, handicap, or national or ethnic origin.

QUALITY IN HIGHER EDUCATION CONFERENCE
c/o Samford University Foundation
P.O. Box 2313
Birmingham, Alabama 35229

# PERSONALITIES: 154

## Keynote Speaker

**Rosetta Riley, Ph.D.,** Director of Customer Satisfaction, Cadillac Motor Car Division of General Motors. Dr. Riley provided leadership in Cadillac's successful quest for the 1990 Malcolm Baldrige National Quality Award. She received bachelors, masters and doctoral degrees from UCLA in economics, math and statistics.

## Presenters

**Thomas E. Corts, Ph.D.,** President, Samford University, Birmingham, Alabama

**Curt Reimann, Ph.D.,** Director, Malcolm Baldrige National Quality Award Program, United States Department of Commerce, Washington, D.C.

**L. Edwin Coate, Ph.D.,** Vice President for Finance and Administration, Oregon State University, Corvallis, Oregon

**David Sylwester, Ph.D.,** Chair, Department of Statistics, College of Business Administration, University of Tennessee at Knoxville, Knoxville, Tennessee

**Susan Hillenmeyer, Ph.D.,** Consultant and Quality Coach, Belmont College, Nashville, Tennessee

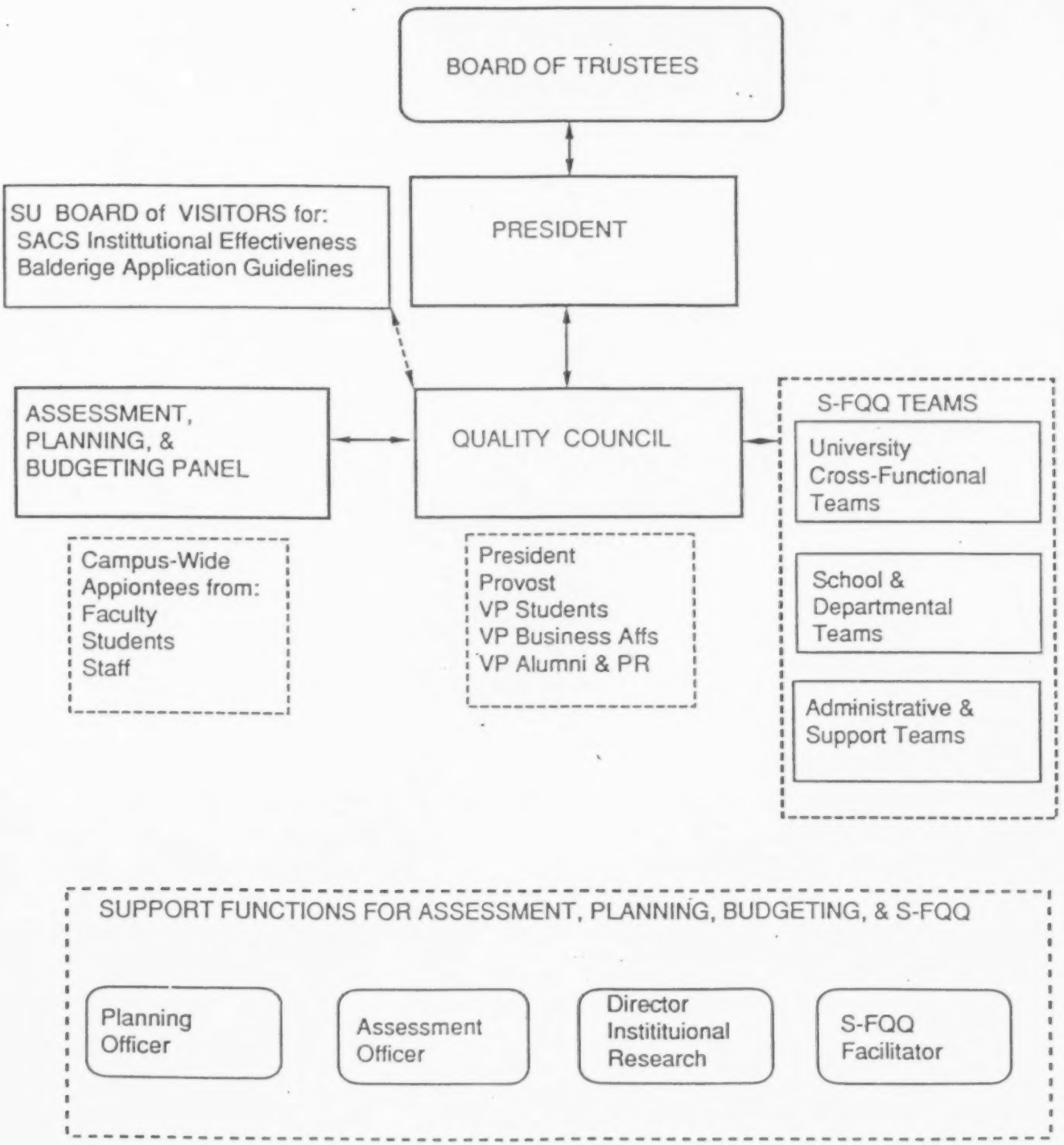
**Catherine Collett, Ph.D.,** Quality Improvement Consultant, Albany, Oregon. (Former Total Quality Manager, Hewlett-Packard Company.)

**William E. Hull, Ph.D.,** Provost, Samford University, Birmingham, Alabama

**John W. Harris, Ed. D.,** Assistant to the Provost for Assessment and Quality Improvement, Samford University, Birmingham, Alabama

# APPENDIX
# F

# ORGANIZATION & STAFFING of ASSESSMENT, PLANNING, BUDGETING, & STUDENT-FIRST QUALITY QUEST



# APPENDIX
# G

# FUNCTIONS of GROUPS and RELATED STAFF for ASSESSING, PLANNING and BUDGETING, and S-FQQ

## QUALITY COUNCIL

Develops Samford mission-customers-processes-values-vision (M-C-P-V-V).

Develops culture-context for Assessment, Planning, Budgeting, and S-FQQ through dissemination and dialogue around M-C-P-V-V.

Develops broad-scope goals, social/economic assumptions, and major program & capitol construction objectives for planning & budgeting.

Develops Planning and Budgeting Plan.

Develops an Assessment Plan for both academic and administrative areas.

Works with the Presidential appointed Assessing, Planning and Budgeting Panel

Connects Assessment findings to Planning & Budgeting.

Commissions Cross-Functional teams and receives their reports.

Guides S-FQQ training and facilitation.

Interacts with Board of Visitors on Samford's Progress in meeting SACS Institutional Effectiveness Criteria and Baldrige Guidelines.

Proposes Samfords Assessment Plan & Budget (1 Yr. and 5 Yr. Operating) to the President.

## ASSESSING, PLANNING & BUDGETING PANEL

Reviews all assessment, planning and budgeting policy documents and initiatives of the Quality Council.

## BOARD OF VISITORS

Annually reviews all assessment, planning and budgeting activities to determine if assessment results and S-FQQ processes are being integrated into Samford's instructional and management systems.

Reviews Assessment, Quality Improvement, and Planning & Budgeting policies and practices yearly to determine their consistency with SACS institutional effectiveness criteria.

Reviews all assessment data and S-FQQ, and planning & budgeting procedures against the Baldrige guidelines for: leadership, information & analysis, strategic quality planning, human resource

utilization, quality assurance of products and services, quality results, and customer satisfaction.

Produces an annual report on Samford's quality and effectiveness delivered orally in a meeting to which all students, faculty, administrators, and staff are invited. A written document is also released to all members of the Samford community. Interviews faculty and staff in regard to climate for assessing institutional effectiveness and quality improvement.

PLANNING OFFICER FUNCTION

Supports Quality Council by:
securing information
developing guidelines and procedures
performing calculations
sees that information and documents move as scheduled

Moves M-C-P-V-V through each level from Quality Council to academic departments and administrative units back to Quality Council.

Moves planning & budgeting through each level from Quality Council to academic departments and administrative units back to Quality Council.

Provides Assessment, Planning and Budgeting Panel with all relevant documents and technical assistance.

Develops draft budgets and analyzes submitted budgets

ASSESSMENT OFFICER FUNCTION

Supports Quality Council by:
Securing information on assessment practices and instruments
Develops guidelines and procedures for unit assessing
Sees that information and documents move as scheduled

Moves assessment through each level from Quality Council to academic departments and administrative units back to Quality Council

Provides Assessment, Planning and Budgeting Panel with all relevant documents and technical assistance.

INSTITUTIONAL RESEARCH OFFICER FUNCTION

Develops and maintains data bases for regular institutional reporting, i.e. IPEDS

Provides data and technical assistance to Quality Council, Assessment, Planning and Budgeting Panel

Produces data needed for assessing, planning and budgeting, and performance indicators related to critical processes, i.e. enrollment management.

## S-FQQ FACILITATOR FUNCTIONS

Supports Quality Council in developing M-C-P-V-V and deploying it through the University organization.

Provides training and assistance to operating units in developing relevant M-C-P-V-Vs.

Orients, trains, and facilitates cross-functional teams.

Trains school and administrative area S-FQQ coaches and facilitators.

Provides general orientation and training in Quality improvement to faculty, administrators, and staff.

Rev. 8/24/92

| Baldrige Criteria | | SU Process | Reporters |
|---|---|---|---|
| 1.0 | Leadership | | Thomas Corts |
| 1.1 | Senior Executive Leadership | | |
| 1.2 | Management for Quality | | |
| 1.3 | Public Responsibility | | |
| 2.0 | Information and Analysis | Planning | Laverne Farmer |
| 2.1 | Scope and Management of Quality and Performance Data and Information | | |
| 2.2 | Competitive Comparisons and Benchmarks | | |
| 2.3 | Analysis and Uses of Company-Level Data | | |
| 3.0 | Strategic Quality Planning | Complying | John Harris |
| 3.1 | Strategic Quality and Company Performance Planning Process | | |
| 3.2 | Quality and Performance Plans | | |
| 4.0 | Human Resource Development & Management | Staffing | William Hull |
| 4.1 | Human Resource Management | | |
| 4.2 | Employee Involvement | | |
| 4.3 | Employee Education and Training | | |
| 4.4 | Employee Performance and Recognition | | |
| 4.5 | Employee Well-Being and Morale | | |

| Baldrige Criteria | | SU Process | Reporters |
|---|---|---|---|
| 5.0 | Management of Process Quality | Enrolling/ Funding | Don Belcher<br>Dan Hendley |
| 5.1 | Design and Introduction of Quality Products and Services | | |
| 5.2 | Process Management-Product and Service Production and Delivery Processes | | |
| 5.3 | Process Management-Business Processes and Support Services | | |
| 5.4 | Supplier Quality | | |
| 5.5 | Quality Assessment | | |
| 6.0 | Quality and Operational Results | Learning | John Harris |
| 6.1 | Product and Service Quality Results | | |
| 6.2 | Company Operational Results | | |
| 6.3 | Business Process and Support Service Results | | |
| 6.4 | Supplier Quality Results | | |
| 7.0 | Customer Focus and Satisfaction | Living | Richard Franklin |
| 7.1 | Customer Relationship Management | Marketing | Wesley Pattillo |
| 7.2 | Commitment to Customers | | |
| 7.3 | Customer Satisfaction Determination | | |
| 7.4 | Customer Satisfaction Results | | |
| 7.5 | Customer Satisfaction Comparison | | |
| 7.6 | Future Requirements and Expectations of Customers | | |

## RESPONSIBILITIES

1. Understand the Process.

2. Map the Process.

3. Identify the Critical Performance Measures (CPM's) for the Process.

4. Collect with the Institutional Researcher CPM data; maintain trend data; collect benchmark data in as many cases as relevant comparisons are available; and present and interpret the data (trend and benchmark) to the Quality Council periodically and once each year to the University community and to the Board of Trustees.

5. Appoint and oversee QI Cross-Functional Process Teams as needed.

6. Work across all functional boundaries to develop seamless cross-functional processes.



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# Reporter Responsibilities - Baldrige Criteria

## 1.0 Leadership

1.1 Senior Executive Leadership
Describe the President's, Provost's, and Vice Presidents' leadership, personal involvement, and visibility in developing and maintaining a customer focus and an environment for quality excellence.

1.2 Management for Quality
Describe how the University's customer focus and quality values are integrated into day-to-day leadership, management, and supervision of all University units.

1.3 Public Responsibility
Describe how the University includes its responsibilities to the public for health, safety, environmental protection, and ethical business practices in its quality policies and improvement activities, and how it provides leadership in external groups.

## 2.0 Information and Analysis

2.1 Scope and Management of Quality and Performance Data and Information
Describe the University's base of data and information used for planning, day-to-day management, and evaluation of quality. Describe also how data and information reliability, timeliness, and access are assured.

2.2 Competitive Comparisons and Benchmarks
Describe the University's approach to selecting data and information for competitive comparisons and national benchmarks to support quality and performance planning, evaluation, and improvement.

2.3 Analysis and Uses of University-Level Data
Describe how quality-and-performance-related data and information are analyzed and used to support the University's overall operational and planning objectives.

## 3.0 Strategic Quality Planning

3.1 Strategic Quality and University Performance Planning Process
Describe the University's strategic planning process for the short term (1-2 years) and longer term (3 years or more) for quality and customer satisfaction leadership. Include how this process integrates quality and University performance requirements and how plans are deployed.

3.2 Quality and Performance Plans
Summarize the University's quality and performance plans and goals for the short term (1-2 years) and the longer term (3 years or more).

## 4.0 Human Resource Development & Management

4.1 Human Resource Management
Describe how the University's overall human resource development and management plans and practices support its quality and University performance plans and address all categories and types of employees.

4.2 Employee Involvement
Describe the means available for all employees to contribute effectively to meeting the University's quality and performance objectives; summarize trends in involvement.

4.3 Employee Education and Training
Describe how the University determines what quality and related education and training is needed by employees and how the University utilizes the knowledge and skills acquired; summarize the types of quality and related education and training received by employees in all categories.

4.4 Employee Performance and Recognition
Describe how the University's employee performance, recognition, promotion, compensation, reward, and feedback processes support the attainment of the University's quality and performance objectives.

4.5 Employee Well-Being and Morale

Describe how the University maintains a work environment conducive to the well-being and growth of all employees; summarize trends and levels in key indicators of well-being and morale.

## 5.0 Management of Process Quality

5.1 Design and Introduction of Quality Products and Services

Describe how new and/or improved products and services are designed and introduced and how processes are designed to meet key product and service quality requirements and University performance requirements.

5.2 Process Management-Product and Service Production and Delivery Processes

Describe how the University's product and service production and delivery processes are managed so that current quality requirements are met and quality and performance are continuously improved.

5.3 Process Management-Business Processes and Support Services

Describe how the University's business processes and support services are managed so that current requirements are met and quality and performance are continuously improved.

5.4 Supplier Quality

Describe how the quality of materials, components, and services furnished by other businesses is assured and continuously improved.

5.5 Quality Assessment

Describe how the University assesses the quality and performance of its systems, processes, and practices and the quality of its products and services.

## 6.0 Quality and Operational Results

6.1 Product and Service Quality Results

Summarize trends in quality and current quality levels for key product and service features; compare the University's current quality levels with those of competitors.

6.2 University Operational Results
Summarize trends and levels in overall University operational performance and provide a comparison of this performance with competitors and appropriate benchmarks.

6.3 Business Process and Support Service Results
Summarize trends and current levels in quality and performance improvement for business processes and support services.

6.4 Supplier Quality Results
Summarize trends in quality and current quality levels of suppliers; compare the University's supplier quality with that of competitors and with key benchmarks.

## 7.0 Customer Focus and Satisfaction

7.1 Customer Relationship Management
Describe how the University provides effective management of its relationships with its customers and uses information gained from customers to improve customer relationship management strategies and practices.

7.2 Commitment to Customers
Describe the University's explicit and implicit commitments to customers regarding its products and services.

7.3 Customer Satisfaction Determination
Describe the University's methods for determining customer satisfaction and customer satisfaction relative to competitors; describe how these methods are evaluated and improved.

7.4 Customer Satisfaction Results
Summarize trends in the University's customer satisfaction and trends in key indicators of dissatisfaction.

7.5 Customer Satisfaction Comparison
Compare the University's customer satisfaction results with those of competitors.

7.6 Future Requirements and Expectations of Customers
Describe how the University determines future requirements and expectations of customers.

# APPENDIX E

## SUMMARY OF CHANGES AT TENNESSEE INSTITUTIONS

## SUMMARY OF CHANGES MADE AT TENNESSEE INSTITUTIONS AS A RESULT OF ASSESSMENT ACTIVITIES

General Education

UT Martin added writing emphasis in upper division courses; one department added a senior capstone course.

Roane State added more humanities to the curriculum.

State Tech at Memphis took steps to improve oral and written communication skills; added opportunities to give oral presentations; hired a writing specialist to assist faculty in teaching writing.

Austin Peay revised general education curriculum to include interdisciplinary core; removed requirement that community college transfers make up core courses since their COMP scores were as high as those of APSU students.

UT Knoxville revised general education requirements to comprise larger percentage of the curriculum; resisted efforts to trim the social science requirement; appointed an interdisciplinary group to look at problem-solving.

Major Fields

(Locally-developed tests produce more action than do standardized tests.)

Added a faculty member to teach in an area of low scores.
Increased core requirements to ensure breadth.
Introduced common exams in lower division courses to ensure quality.
Instituted minimum GPA requirement for majors.
Increased faculty attention to setting objectives for courses and curricula.
Increased faculty interest in developing better classroom tests.
Increased faculty attention to improving communications skills.
Added computer hardware and software.
Suggested areas for faculty development experiences.
Increased interest in preparation of transfer students.

Surveys

(Produce more action than do other assessment activities.)

Reform of undergraduate advising.
Attempts to increase student-faculty interaction.
Introduction of freshman studies courses.
Attempts to increase communication between students and administrators.
Human relations training for personnel in administrative offices.
Increased attention to special needs of Black students.
Increased opportunities for students to evaluate instruction.
Improved printed information about programs and services.
Increased attention to preparing graduate teaching assistants to teach.

# APPENDIX F

CORRESPONDENCE
from
PROJECT PARTICIPANTS

Memphis State
UNIVERSITY

(901) 678-2119
FAX: (901) 678-3643

August 25, 1992

Dr. Trudy W. Banta
Professor and Director
International Conference Sponsor
The University of Tennessee, Knoxville
1819 Andy Holt Avenue
Knoxville, Tennessee 37996-4350

Dear Trudy,

I want you to know how much I have gained over the past three years as a member of the FIPSE funded grant on Total Quality Management and higher education assessments. You may remember my skepticism of TQM at the beginning, especially the difficulty of translating the language of industry to the academic setting. But our projects and meetings have helped me to grow and to experiment with TQM in my office. I doubt that one or two meetings on TQM would have been very effective with me. It needed to be nurtured and developed over a period of time. Whatever the other goals of the FIPSE grant were, you put together a great model of professional development that included interaction with the experts and team building for continuous support. It is really effective.

Thank you for inviting me to participate in the TQM project. I hope you will include me in future projects.

Sincerely,

Daniel J. Poje
Coordinator of Academic Programs

DJP:bj



Office of Vice President for Academic Affairs / 323 Administration / Memphis, Tennessee 38152

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# STATE TECHNICAL INSTITUTE AT MEMPHIS



September 11, 1992

Dr. Trudy Banta
Vice Chancellor for Planning
and Institutional Improvement
IUPUI
355 N. Lansing St.
Indianapolis, IN 46202-2896

Dear Trudy:

I would like to thank you once again for allowing me to participate during the past three years in a FIPSE project to apply Deming's quality improvement strategies to assessment in higher education. The project's influences on my environment and me have been great.

First, exposure to the total quality management concept has caused me to explore a new literature base and increased my effectiveness as an administrator in higher education. Also, as you know, State Tech's president initiated a continuous improvement program at the college this year. While it would be presumptuous to contend that my participation in the FIPSE grant prompted his initiative, it is fair to say that the programs at other campuses and companies to which I was exposed and could speak in our campus deliberations have enriched our process considerably.

Second, meeting and discussing Tennessee's Performance Funding standards as they were being revised strengthened the outcomes of that process and, hopefully will have a positive influence on all students participating in assessment in higher education in Tennessee. The employer survey that we developed and piloted is an instrument that will be used for years to come and will continue to provide institutions with valuable information to insert in the assessment portfolios of many students.

Finally, the collaboration among individuals from different types of higher education institutions in Tennessee has been invaluable. The fact that we have designated a time and a place to continue meeting, even without the auspices of the grant, is testimony to the worth we give to our collaborative efforts.

Again, Trudy, thanks for everything. As we said in our last meeting, we made a terrible mistake letting you get out of Tennessee, but we will not compound that mistake by letting you get out of our professional deliberations.

Sincerely,

Janice

Janice Van Dyke
Assistant Dean, Academic Support

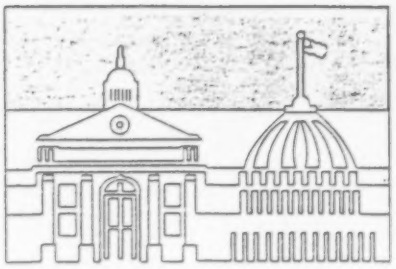
JVD:dw

# APPENDIX G

## DEFINING THE QUALITY-DRIVEN INSTITUTION

by

Peter T. Ewell




# Assessment Update

Progress, Trends, and Practices in Higher Education
September–October 1992 • Volume 4, Number 5


# Defining the Quality-Driven Institution

Peter T. Ewell

In May, representatives from ten universities met at the University of Tennessee, Knoxville, under the auspices of a grant from the Fund for Improvement of Postsecondary Education, to discuss their experiences in implementing Total Quality (TQ) programs in higher education. The core of the meeting consisted of a series of brainstorming sessions centered on four main topics: identifying the *distinguishing features* of a "quality-driven" institution, isolating the most important *current barriers* to the creation of such an institution, developing effective *strategies for overcoming* these barriers, and identifying the most important *target areas for research and development* aimed at facilitating the application of TQ in college and university settings.

Meeting participants exhibited remarkable convergence on all aspects of these topics. Despite the broad differences between TQ programs, most participants reported many of the same dilemmas and keys to successful implementation and most agreed on the particular research and development areas that would be needed for the future.

### The Quality-Driven Institution

The first formal brainstorming task set by the group focused on concretely identifying the intended institutional outcomes of TQ. In most respects, the 36 features identified constitute a fairly typical list. Many of the same themes—including the need for decentralized decision making, concrete information, and cross-functional problem-solving and communications approaches—are prominent in the literature on TQ and have been previously identified by TQ practitioners in non–higher education settings. But several distinctive features of a quality-driven university emerged.

***The very institutions that consider it legitimate to investigate others appear most reluctant to apply research to their own operations.***

Perhaps the most powerful of these was the notion of a university as a "learning system" in both its principal products and its internal operations. Learning products in this context included the familiar array of educational, research, and public service outcomes. Somewhat newer was the conviction that prominent recognition of these outcomes as "products" should be a part of the institution's

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**Assessment Update**

**Progress, Trends, and Practices in Higher Education**
September–October 1992
Volume 4, Number 5

**Editor**
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Pat Hutchings, *director, Projects on Teaching, and senior associate, American Association for Higher Education*

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**Designer**
Kerry Golemon Schwartz, *Insight Out!*

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collective vision: all members of the community should be made aware of their own contributions toward these ends.

Particularly compelling was the identification of the university *itself* as a learning system, actively demonstrating in its regular operations its own core values of rational investigation, systematic data-collection, and commitment to excellence and improvement. Lack of consistency in this respect has been a major charge leveled at public universities of late by public officials. Their claim is that the very institutions that consider it legitimate to investigate and to criticize others in society appear most reluctant to apply research to their own operations. Given this condition, the vision of a learning institution might be particularly powerful, both as an internal mobilizing symbol and in addressing growing imperatives for public accountability.

A second distinctive set of features addressed a new vision of teaching and learning that includes active student participation and involvement both in and outside the classroom. A particular imperative identified here was to break down disciplinary barriers in areas where they impede the achievement of common instructional goals, especially in general education.

### Analysis of Barriers and Strategies

After the initial session, participants turned to the more concrete tasks of identifying barriers in the current environment that block attainment of the quality-driven institution and of developing strategies for overcoming these barriers. Results included identification of 68 distinct barriers to attainment and 31 strategies for overcoming these barriers.

*(continued on page 4)*

## Call for Contributions

The editor welcomes short articles and news items for *Assessment Update*. Guidelines follow for those who would like to contribute articles on outcomes assessment in higher education.

- *Content:* Please send an account of your experience with assessment in higher education. Include concrete examples of practice and results.
- *Audience: Assessment Update* readers are academic administrators, campus assessment practitioners, institutional researchers, and faculty from a variety of fields. All types of institutions are represented in the readership.
- *Style:* A report, essay, news story, or letter to the editor would be welcome. Neither tables nor references can be printed, however.
- *Format:* In addition to standard manuscripts, news may be contributed via telephone call, outline, or letter. The standard manuscript format is a 60-space line with 25 lines per page. If word processing is used, a 5 1/4" or 3 1/2" diskette may accompany a paper copy of an article. Microsoft Word software is preferred, but Word Perfect 5.0 or 5.1 is acceptable.
- *Length:* Articles should be four to eight typed, double-spaced pages (1,000–2,000 words). Short news items for the Calendar, Events, Memos, With FIPSE Support, and Book Review sections may be 100–500 words in length. Annotations of recent publications for the Resources feature should be about 50–100 words long.
- *Copyright:* Articles shall not have been registered for copyright or published elsewhere prior to publication in *Assessment Update*.
- *Deadlines:* Each issue is typically planned four months before its publication. Future deadlines for submitting articles are Nov. 1 (Mar.–Apr. 1993 issue) and Jan. 1 (May–June 1993 issue).

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are finding that group discussions of *The Fifth Discipline—The Art and Practice of the Learning Organization*, by Peter M. Senge of MIT (Doubleday, 1990), are helpful in understanding the implications of the university as a learning system.

In making our voices heard in the TQM dialogue, we can also draw on an increasing number of examples of applying quality improvement (and assessment) principles in curriculum design and classroom instruction. I recently attended a national conference of statistics professors in which examples from colleges of business at Minnesota, the Rochester Institute of Technology, and the University of Chicago were discussed.

More and more often I hear colleagues in assessment express concern that campus TQ initiatives are going to absorb funds that might have been allocated to support assessment. My response is to ask, "But how can you implement TQM without a strong assessment component?" I hope many of you are asking the same question. ■

*(continued from page 2)*

Because so many barriers were identified, the group undertook a further grouping exercise to uncover commonalities. This resulted in seven general "barrier areas"—nonsupportive attitudes (culture), poor or uninformed leadership, lack of knowledge about quality improvement processes and tools, lack of resources (including fiscal, human, and informational resources), nonsupportive organizational structures and reward systems, inappropriate organizational mission or vision statements, and a hostile external environment. Because the grouping exercise and a follow-up affinity diagram exercise suggested the dominance of attitudes, leadership, and external environment as barriers, strategy brainstorming concentrated on these three sources only.

Many of the barriers identified in these sessions were familiar themes of TQ implementation in any setting, but, again, distinctive aspects of the higher education environment were apparent. Prominent were elements of academic organization and governance that tend to isolate participants from one another and to slow the process of innovation. On the organizational front, the fact that academic departments provide the primary unit of action and accountability leads to neglect of important collective processes such as general education, student retention, or advising. On the governance and decision-making front, the perceived need to achieve consensus on all issues through unusual levels of consultation was seen as inhibiting innovation and adding time, while the typical lack of explicit quality incentives in decision making was viewed as discouraging individual initiatives for improvement.

An interesting outcome of the discussion of barriers was what did *not* emerge as dominant—particularly, a lack of resources. While several concrete deficiencies in resources were mentioned, including inadequate training and information, neither the grouping nor the affinity exercises identified these factors as decisive. Given the common attitude in higher education to see all proposed changes as "add-ons" requiring further resources, this is an important result. At the same time, higher education was seen as pressed by the outside environment, but not so strongly that a crisis occurs. The result is often a lack of perceived urgency on the part of the campus community in addressing identified problems.

***Because attitudes and structures reinforce one another, quality-centered actions must address both.***

Grounding the group's discussion of barriers and strategies appeared to be a relatively consistent model of change, which emphasizes the mutually reinforcing roles of attitudes and organizational structures in any organization. In attempting to move attitudes and organizational structures from their current configuration in colleges and universities to a pattern more consistent with the attributes of a quality-driven institution, it is important to recognize that they do not operate independently. Because attitudes and structures reinforce one another, quality-centered actions must address both.

Second, two predominant tools for action emerged in the group's discussion: leadership and knowledge about Quality Improvement (QI) techniques. Both these attributes of change have concrete implications, which were embodied in many of the specific strategies identified by participants. The need to keep attitudes and structures in balance as both are gradually transformed, for instance, strongly supports the idea to start small with a few well-defined, complete demonstration projects.

Among the more salient needs in the realm of leadership here are consistency of message, sheer continuity, and the role of leadership in identifying, interpreting, and using external pressures as opportunities for change. Needs for QI training include identifying and educating opinion leaders, providing concrete information about performance (when available) to stimulate discussion, avoiding "hard-sells," and emphasizing the concrete benefits of the process to participants in day-to-day operational terms.

### Next Steps

The last phase of the brainstorming process centered on identifying fruitful research and development areas for TQ techniques in higher education. Participants noted a total of 23 such ideas, most of which appeared to fall under one of three main headings:

*Documentation.* The most commonly expressed need was for more extensive documentation of successful—and unsuccessful—applications of TQ in college and university settings. In this regard analyses directed at identifying common factors for success across different kinds of settings were seen as

especially useful. Another point noted was the identification of initial points of attack for TQ that have proven successful in other settings, such as student aid, large classes, or general education. The strongest expression of this theme was a call for developing a standard implementation template or common road map for applying TQ concepts in colleges and universities.

*Networking.* Participants felt a real need for a mechanism to exchange ideas and techniques among themselves and with other TQ practitioners. Further, they noted a need for active "benchmarking" of TQ efforts among similar types of higher education institutions to help chart progress and suggest areas of improvement.

*Further Conceptual Work.* Participants agreed that applications of TQ concepts were especially needed in the academic area, particularly in the core processes of teaching and learning. But they also felt that many TQ concepts did not transfer appropriately when applied to this arena. The center of gravity for TQ applications among participating institutions has been in administrative rather than academic processes. The reasons appear to be partly tactical: beginning with administrative applications offers clear opportunities for immediate success, thus providing concrete demonstrations of the efficacy of TQ techniques. There are political reasons as well: in the initial stages it seems wiser to avoid controversial applications that will automatically engender faculty resistance. But there was also a real uncertainty about how particular concepts (including, most prominently, *customers* and *suppliers*) might best be applied to an academic setting. The result was an ambivalence among participants; while all applauded the notion of academic application of TQ, many seemed reluctant to embrace it actively and preferred to stick to areas where concrete gains could more clearly be promised and delivered.

Two implications seem apparent. First, if academic application of TQ is to be successful, then TQ concepts need further development. Second, absent further development of these concepts, a conscious decision may have to be made, and publicly expressed, that the appropriate domain of TQ should be confined to administrative processes.

### Additional Issues

*Role of Top Leadership.* Participating institutions were unanimous in identifying leadership as a key factor in TQ implementation; all had successfully involved top leaders early in the process. Some clear roles for leaders seemed apparent, including articulation of the vision, consistent reward and recognition of the TQ process, and active modeling of core values, such as customer focus, valuing people, and use of information. Less clear from the group was whether the involvement and support of top leadership is a precondition for *any* kind of progress consistent with TQ. Some participants argued that actions consistent with TQ might be initiated at any level; indeed, entire units might operate effectively within a TQ environment while others did not. Other participants appeared reluctant to advocate this approach in the long run for fear of not fulfilling institution-wide goals.

*Role of the External Environment.* One interesting result of the barriers exercise was the group's identification of the external environment as a distinctive and powerful variable affecting innovation. Once this was noted, however, it was difficult to know what to do. While external factors clearly have a major influence on campus events, there is not much in the realm of TQ that might affect them. Strategies identified by the group therefore tended to include external factors as opportunities for leadership: if external requirements are not too pressing, campus leaders can harness them to help induce internal change.

At a more basic level, the increasing fiscal and accountability constraints felt by most participants were seen in two ways. On the one hand, they serve as "crisis-producers" that operate in much the same way as the market forces that ultimately induced the adoption of TQ techniques in other industries. On the other hand, pressing external demands, particularly in the form of accountability requirements, block innovation because they divert scarce energy that might better be spent on improvement and because they tend to induce a short-term, reactive mind-set on the part of institutional leaders. From the TQ perspective, this ambivalence suggests a further conceptual difficulty: for public institutions, to what extent do public agencies and officials constitute legitimate "customers" and, once identified as customers, how can their needs be best met?

These and other issues will undoubtedly remain prominent themes for discussion as TQ techniques become more common in higher education. This group's discussion suggests that systematic attention to the issues at an early point would be particularly beneficial.

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*Peter T. Ewell is senior associate, National Center for Higher Education Management Systems.*

# APPENDIX H

BUDGET

DEMING GRANT
EXPENDITURES: SEPT., 1991 - AUG., 1992
FIPSE BUDGET CATEGORIES

| BUDGET ITEM | BUDGETED | EXPENDITURES | FINAL BALANCE |
|---|---|---|---|
| SALARIES & WAGES | $50,955.00 | $48,026.64 | $2,928.36 |
| EMPLOYEE BENEFITS | $13,758.00 | $12,282.94 | $1,475.06 |
| TRAVEL | $18,445.00 | $15,402.15 | $3,042.85 |
| EQUIPMENT | $0.00 | $0.00 | $0.00 |
| MATERIALS & SUPPLIES | $3,000.00 | $2,659.41 | $340.59 |
| CONSULTANTS & CONTRACTS | $17,800.00 | $17,154.39 | $645.61 |
| OTHER EXPENDITURES | | | |
| DUPLICATING | $4,500.00 | $4,141.06 | $358.94 |
| POSTAGE | $2,500.00 | $2,426.50 | $73.50 |
| TELEPHONE | $1,750.00 | $1,746.57 | $3.43 |
| COMPUTER SERVICES | $2,500.00 | $2,500.00 | $0.00 |
| RENT - OFFICE SPACE | $3,240.00 | $3,240.00 | $0.00 |
| UTILITIES | $1,440.00 | $1,440.00 | $0.00 |
| RENT - EQUIPMENT | $600.00 | $655.00 | ($55.00) |
| REFERENCE MATERIALS | $545.00 | $509.97 | $35.03 |
| TOTAL | **$121,033.00** | **$112,184.63** | **$8,848.37** |

DEMING GRANT
EXPENDITURES: SEPT., 1991 - AUG., 1992
FIPSE BUDGET CATEGORIES

| BUDGET ITEM | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER |
|---|---|---|---|---|
| SALARIES & WAGES | $0.00 | $11.85 | $2,848.70 | $10,879.60 |
| EMPLOYEE BENEFITS | $0.00 | ($38.79) | $926.79 | $2,886.23 |
| TRAVEL | $0.00 | $0.00 | $139.85 | $668.65 |
| EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 |
| MATERIALS & SUPPLIES | $0.00 | $80.88 | $352.27 | $106.50 |
| CONSULTANTS & CONTRACTS | $0.00 | $500.00 | $0.00 | $300.00 |
| OTHER EXPENDITURES | | | | |
| DUPLICATING | $0.00 | $0.00 | $0.00 | $0.00 |
| POSTAGE | $0.00 | $0.00 | $0.00 | $0.00 |
| TELEPHONE | $0.00 | $0.00 | $0.00 | $0.00 |
| COMPUTER SERVICES | $0.00 | $0.00 | $0.00 | $0.00 |
| RENT - OFFICE SPACE | $0.00 | $0.00 | $0.00 | $0.00 |
| UTILITIES | $0.00 | $0.00 | $0.00 | $0.00 |
| RENT - EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 |
| REFERENCE MATERIALS | $0.00 | $0.00 | $0.00 | $10.95 |
| TOTAL | **$0.00** | **$523.94** | **$4,267.61** | **$14,851.93** |

DEMING GRANT
EXPENDITURES: SEPT., 1991 - AUG., 1992
FIPSE BUDGET CATEGORIES

| BUDGET ITEM | JANUARY | FEBRUARY | MARCH | APRIL |
|---|---|---|---|---|
| SALARIES & WAGES | $2,848.70 | $2,848.70 | $2,585.79 | $5,158.50 |
| EMPLOYEE BENEFITS | $944.03 | $925.05 | $660.34 | $1,136.56 |
| TRAVEL | $689.60 | $734.60 | $0.00 | $1,480.61 |
| EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 |
| MATERIALS & SUPPLIES | $391.13 | $434.49 | $662.34 | $59.50 |
| CONSULTANTS & CONTRACTS | $84.00 | $0.00 | $0.00 | $0.00 |
| OTHER EXPENDITURES | | | | |
| DUPLICATING | $0.00 | $40.20 | $2.00 | $0.00 |
| POSTAGE | $0.00 | $0.00 | $226.50 | $0.00 |
| TELEPHONE | $0.00 | $0.00 | $0.00 | $0.00 |
| COMPUTER SERVICES | $0.00 | $0.00 | $0.00 | $0.00 |
| RENT - OFFICE SPACE | $0.00 | $0.00 | $0.00 | $0.00 |
| UTILITIES | $0.00 | $0.00 | $0.00 | $0.00 |
| RENT - EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 |
| REFERENCE MATERIALS | $0.00 | $0.00 | $23.25 | $0.00 |
| TOTAL | $4,957.46 | $4,983.04 | $4,160.22 | $7,835.17 |

DEMING GRANT
EXPENDITURES: SEPT., 1991 - AUG., 1992
FIPSE BUDGET CATEGORIES

| BUDGET ITEM | MAY | JUNE | JULY | AUGUST | TRANSFERS |
|---|---|---|---|---|---|
| SALARIES & WAGES | $4,504.42 | $10,523.48 | $1,837.50 | $2,354.95 | $1,624.45 |
| EMPLOYEE BENEFITS | $941.17 | $1,955.20 | $787.77 | $723.75 | $464.84 |
| TRAVEL | $2,035.25 | $6,762.20 | $0.00 | $380.00 | $2,511.39 |
| EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| MATERIALS & SUPPLIES | $369.11 | $108.64 | $6.32 | $88.23 | $0.00 |
| CONSULTANTS & CONTRACTS | $0.00 | $1,133.89 | $900.00 | $0.00 | $14,236.50 |
| OTHER EXPENDITURES | | | | | |
| DUPLICATING | $1.25 | $189.22 | $0.00 | $3.40 | $3,904.99 |
| POSTAGE | $0.00 | $0.00 | $0.00 | $0.00 | $2,200.00 |
| TELEPHONE | $0.00 | $0.00 | $0.00 | $0.00 | $1,746.57 |
| COMPUTER SERVICES | $0.00 | $0.00 | $0.00 | $0.00 | $2,500.00 |
| RENT - OFFICE SPACE | $0.00 | $0.00 | $0.00 | $0.00 | $3,240.00 |
| UTILITIES | $0.00 | $0.00 | $0.00 | $0.00 | $1,440.00 |
| RENT - EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 | $655.00 |
| REFERENCE MATERIALS | $0.00 | $0.00 | $0.00 | $0.00 | $475.77 |
| TOTAL | $7,851.20 | $20,672.63 | $3,531.59 | $3,550.33 | $34,999.51 |

DEMING GRANT
EXPENDITURES: SEPT., 1991 - AUGUST, 1992

| O.C. | DESCRIPTION | BUDGETED | EXPENDITURES | BALANCE |
|---|---|---|---|---|
| 12 | ACADEMIC SALARIES | $43,950.00 | $42,601.51 | $1,348.49 |
| 13 | GTA, GA, GRA SALARIES | $0.00 | $0.00 | $0.00 |
| 16 | CLERICAL & SUPP. - SALARIED | $7,005.00 | $0.00 | $7,005.00 |
| 17 | CLERICAL & SUPP. - HOURLY | $0.00 | $5,386.53 | ($5,386.53) |
| 18 | STUDENT EMPLOYEES - HOURLY | $0.00 | $0.00 | $0.00 |
| 21 | STAFF BENEFITS - REQUIRED | $13,758.00 | $8,235.26 | $5,522.74 |
| 22 | STAFF BENEFITS - OPTIONAL | $0.00 | $4,047.68 | ($4,047.68) |
| 31 | TRAVEL | $18,445.00 | $11,718.38 | $6,726.62 |
| 33 | PRINT, DUPLICATE, BIND | $4,500.00 | $4,651.03 | ($151.03) |
| 34 | UTILITIES & FUEL | $0.00 | $1,440.00 | ($1,440.00) |
| 35 | COMMUNICATION | $4,250.00 | $4,173.07 | $76.93 |
| 36 | MAINTENANCE & REPAIRS | $0.00 | $0.00 | $0.00 |
| 37 | PROF. SER. & MEMBERSHIPS | $0.00 | $0.00 | $0.00 |
| 38 | COMPUTER SERVICES | $2,500.00 | $2,500.00 | $0.00 |
| 39 | SUPPLIES | $3,000.00 | $2,659.41 | $340.59 |
| 41 | RENTALS | $0.00 | $73.00 | ($73.00) |
| 46 | CONTRACT & SPECIAL SERVICES | $17,800.00 | $11,362.26 | $6,437.74 |
| 49 | OTHER EXPENDITURES | $5,825.00 | $0.00 | $5,825.00 |
| 61 | EQUIPMENT | $0.00 | $0.00 | $0.00 |
| 62 | MINOR EQUIPMENT | $0.00 | $0.00 | $0.00 |
| 81 | CONTRACTS | $0.00 | $13,336.50 | ($13,336.50) |
| | TOTAL | $121,033.00 | $112,184.63 | $8,848.37 |

DEMING GRANT
EXPENDITURES: SEPT., 1991 - AUGUST, 1992

| O.C. | DESCRIPTION | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER |
|---|---|---|---|---|---|
| 12 | ACADEMIC SALARIES | $0.00 | $517.45 | $1,837.50 | $10,168.40 |
| 13 | GTA, GA, GRA SALARIES | $0.00 | $0.00 | $0.00 | $0.00 |
| 16 | CLERICAL & SUPP. - SALARIED | $0.00 | $0.00 | $0.00 | $0.00 |
| 17 | CLERICAL & SUPP. - HOURLY | $0.00 | ($505.60) | $1,011.20 | $1,011.20 |
| 18 | STUDENT EMPLOYEES - HOURLY | $0.00 | $0.00 | $0.00 | $0.00 |
| 21 | STAFF BENEFITS - REQUIRED | $0.00 | $18.04 | $466.03 | $1,921.81 |
| 22 | STAFF BENEFITS - OPTIONAL | $0.00 | ($86.83) | $460.76 | $964.42 |
| 31 | TRAVEL | $0.00 | $0.00 | $98.20 | $668.65 |
| 33 | PRINT, DUPLICATE, BIND | $0.00 | $0.00 | $0.00 | $10.95 |
| 34 | UTILITIES & FUEL | $0.00 | $0.00 | $0.00 | $0.00 |
| 35 | COMMUNICATION | $0.00 | $0.00 | $0.00 | $0.00 |
| 36 | MAINTENANCE & REPAIRS | $0.00 | $0.00 | $0.00 | $0.00 |
| 37 | PROF. SER. & MEMBERSHIPS | $0.00 | $0.00 | $0.00 | $0.00 |
| 38 | COMPUTER SERVICES | $0.00 | $0.00 | $0.00 | $0.00 |
| 39 | SUPPLIES | $0.00 | $80.88 | $352.27 | $106.50 |
| 41 | RENTALS | $0.00 | $0.00 | $0.00 | $0.00 |
| 46 | CONTRACT & SPECIAL SERVICES | $0.00 | $500.00 | $41.65 | $0.00 |
| 49 | OTHER EXPENDITURES | $0.00 | $0.00 | $0.00 | $0.00 |
| 61 | EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 |
| 62 | MINOR EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 |
| 81 | CONTRACTS | $0.00 | $0.00 | $0.00 | $0.00 |
| | TOTAL | **$0.00** | **$523.94** | **$4,267.61** | **$14,851.93** |

DEMING GRANT
EXPENDITURES: SEPT., 1991 - AUGUST, 1992

| O.C. | DESCRIPTION | JANUARY | FEBRUARY | MARCH | APRIL |
|---|---|---|---|---|---|
| 12 | ACADEMIC SALARIES | $1,921.50 | $1,837.50 | $1,837.50 | $5,158.50 |
| 13 | GTA, GA, GRA SALARIES | $0.00 | $0.00 | $0.00 | $0.00 |
| 16 | CLERICAL & SUPP. - SALARIED | $0.00 | $0.00 | $0.00 | $0.00 |
| 17 | CLERICAL & SUPP. - HOURLY | $1,011.20 | $1,011.20 | $748.29 | $0.00 |
| 18 | STUDENT EMPLOYEES - HOURLY | $0.00 | $0.00 | $0.00 | $0.00 |
| 21 | STAFF BENEFITS - REQUIRED | $479.54 | $464.29 | $429.96 | $906.18 |
| 22 | STAFF BENEFITS - OPTIONAL | $464.49 | $460.76 | $230.38 | $230.38 |
| 31 | TRAVEL | $689.60 | $734.60 | $0.00 | $1,000.61 |
| 33 | PRINT, DUPLICATE, BIND | $0.00 | $40.20 | $25.25 | $0.00 |
| 34 | UTILITIES & FUEL | $0.00 | $0.00 | $0.00 | $0.00 |
| 35 | COMMUNICATION | $0.00 | $0.00 | $226.50 | $0.00 |
| 36 | MAINTENANCE & REPAIRS | $0.00 | $0.00 | $0.00 | $0.00 |
| 37 | PROF. SER. & MEMBERSHIPS | $0.00 | $0.00 | $0.00 | $0.00 |
| 38 | COMPUTER SERVICES | $0.00 | $0.00 | $0.00 | $0.00 |
| 39 | SUPPLIES | $391.13 | $434.49 | $662.34 | $59.50 |
| 41 | RENTALS | $0.00 | $0.00 | $0.00 | $0.00 |
| 46 | CONTRACT & SPECIAL SERVICES | $0.00 | $0.00 | $0.00 | $480.00 |
| 49 | OTHER EXPENDITURES | $0.00 | $0.00 | $0.00 | $0.00 |
| 61 | EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 |
| 62 | MINOR EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 |
| 81 | CONTRACTS | $0.00 | $0.00 | $0.00 | $0.00 |
| | TOTAL | $4,957.46 | $4,983.04 | $4,160.22 | $7,835.17 |

DEMING GRANT
EXPENDITURES: SEPT., 1991 - AUGUST, 1992

| O.C. | DESCRIPTION | MAY | JUNE | JULY | AUGUST | FINAL TRANSFERS |
|---|---|---|---|---|---|---|
| 12 | ACADEMIC SALARIES | $4,051.50 | $7,673.65 | $2,737.50 | $2,354.95 | $2,505.56 |
| 13 | GTA, GA, GRA SALARIES | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 16 | CLERICAL & SUPP. - SALARIED | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 17 | CLERICAL & SUPP. - HOURLY | $0.00 | $1,099.04 | $0.00 | $0.00 | $0.00 |
| 18 | STUDENT EMPLOYEES - HOURLY | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 21 | STAFF BENEFITS - REQUIRED | $710.79 | $1,503.78 | $469.00 | $419.30 | $446.54 |
| 22 | STAFF BENEFITS - OPTIONAL | $230.38 | $451.42 | $318.77 | $304.45 | $18.30 |
| 31 | TRAVEL | $2,035.25 | $4,706.24 | $0.00 | $380.00 | $1,405.23 |
| 33 | PRINT, DUPLICATE, BIND | $1.25 | $189.22 | $0.00 | $3.40 | $4,380.76 |
| 34 | UTILITIES & FUEL | $0.00 | $0.00 | $0.00 | $0.00 | $1,440.00 |
| 35 | COMMUNICATION | $0.00 | $0.00 | $0.00 | $0.00 | $3,946.57 |
| 36 | MAINTENANCE & REPAIRS | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 37 | PROF. SER. & MEMBERSHIPS | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 38 | COMPUTER SERVICES | $0.00 | $0.00 | $0.00 | $0.00 | $2,500.00 |
| 39 | SUPPLIES | $369.11 | $108.64 | $6.32 | $88.23 | $0.00 |
| 41 | RENTALS | $0.00 | $18.00 | $0.00 | $0.00 | $55.00 |
| 46 | CONTRACT & SPECIAL SERVICES | $452.92 | $4,922.64 | $0.00 | $0.00 | $4,965.05 |
| 49 | OTHER EXPENDITURES | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 61 | EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 62 | MINOR EQUIPMENT | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 81 | CONTRACTS | $0.00 | $0.00 | $0.00 | $0.00 | $13,336.50 |
| | TOTAL | **$7,851.20** | **$20,672.63** | **$3,531.59** | **$3,550.33** | **$34,999.51** |